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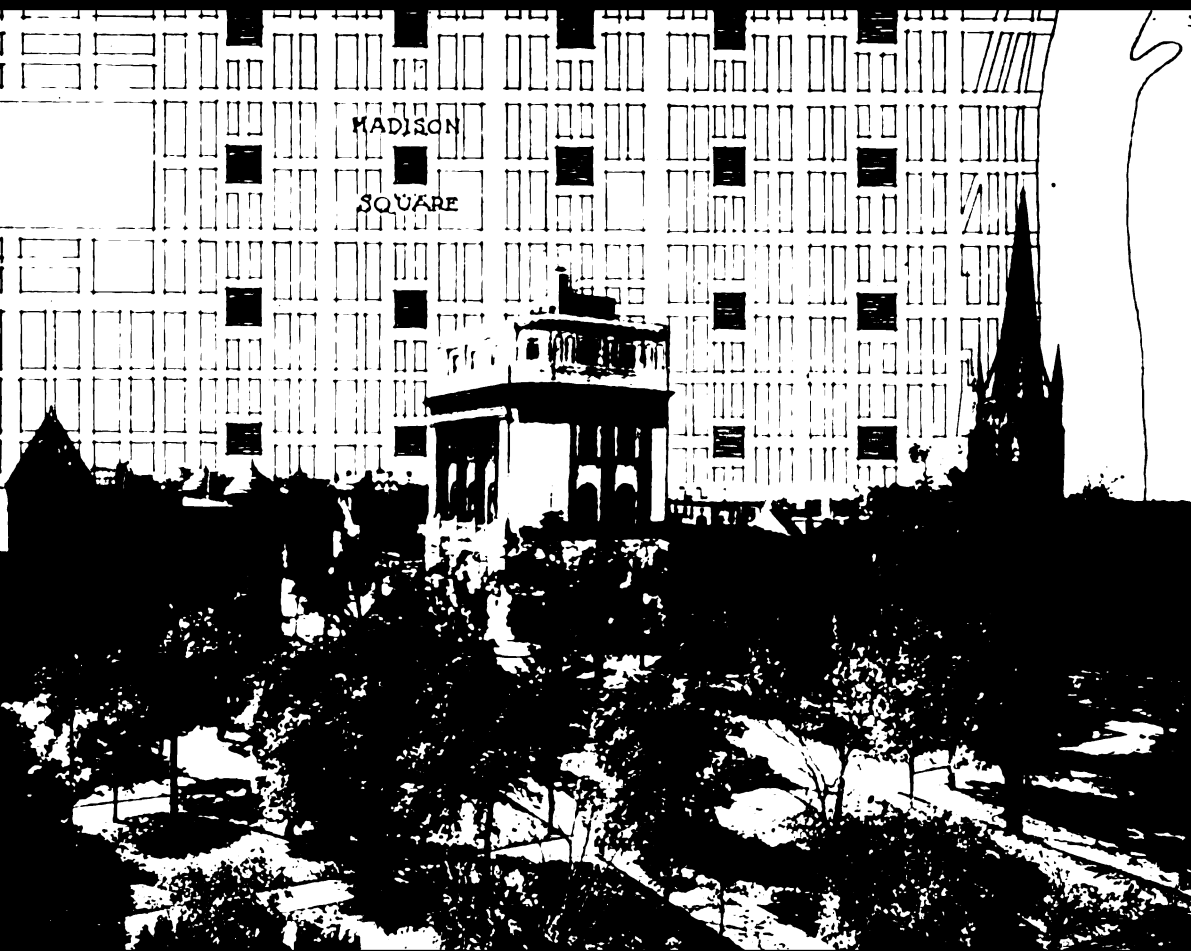
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The American city

Arthur Hastings Grant, Harold
Sinley Battenheim

HARVARD UNIVERSITY



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JULY, 1915

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The American City



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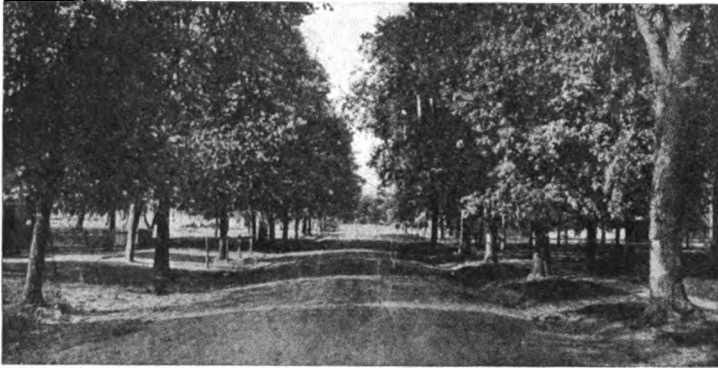
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M. V. FULLER, Associate Editor

THE AMERICAN CITY

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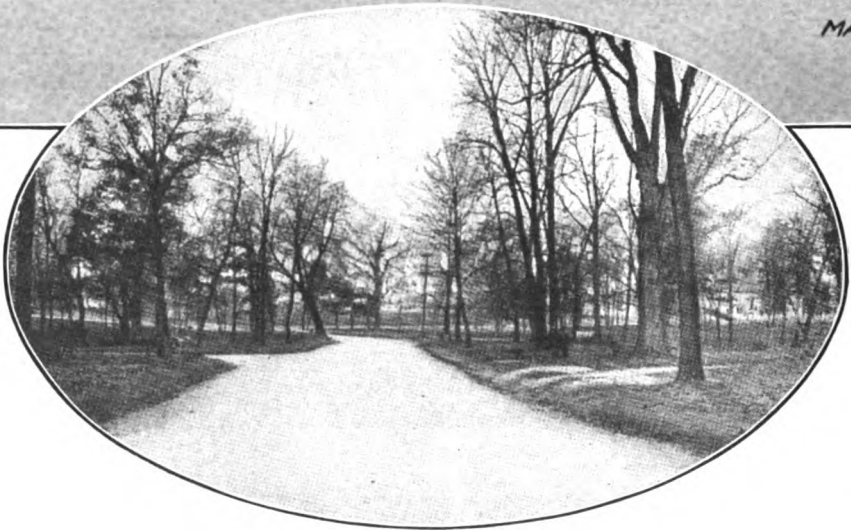
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Empire Rubber & Tire Co.

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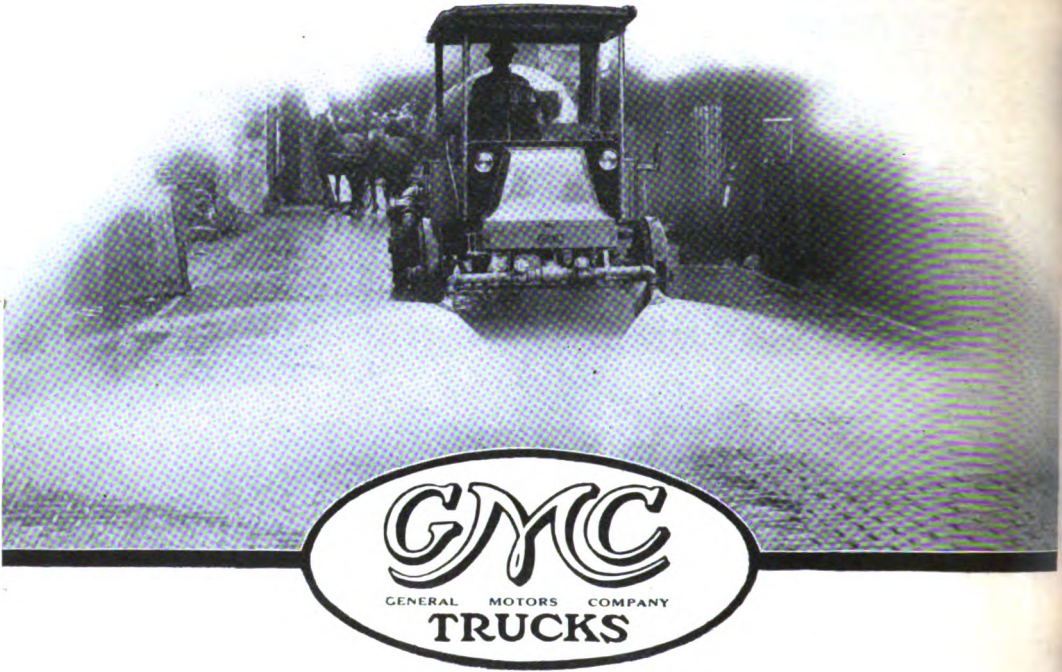
HIGHEST GRADE FIRE HOSE



*also Garden Hose and a
complete line of mechanical
rubber goods.*

Factories, TRENTON, N. J.

THE AMERICAN CITY



The Modern Sanitary Way To Flush Streets and Alleys

The flushing of streets and alleys is now declared by physicians necessary to the public health.

The big question is, "What is the best method of street flushing?" We are in a position to give facts and figures regarding horse-drawn flushers and motor driven flushers.

We have in active service machines that flush both from the front and rear. We build both gasoline and electric chasses. We can advise without prejudice.

Write us for information concerning street flushers or any motor truck equipment for any municipal purpose.

GENERAL MOTORS TRUCK COMPANY

One of the Units of General Motors Company

PONTIAC,

- MICHIGAN

Direct Factory Branches: New York, Boston, Chicago, Philadelphia, St. Louis, Kansas City, San Francisco

PROPOSALS FOR SEWERS

PROBIA, ILL., June 29th, 1915.
The County Court having, last week, confirmed the assessment roll for the SOUTH END SEWER, EAST SECTION, in this city, the undersigned Board will receive BIDS therefor until MONDAY, JULY 12TH, NEXT, at 2 P. M.

The system includes, substantially:
7,824 ft. circular brick sewers from 30 to 72 inches,
9,177 ft. egg-shaped brick sewers from 22 x 33 to 32 x 48 inches,
67,086 ft. vitrified pipe sewers from 8 x 24 inches,
Manholes, catch basins; 2 concrete abutments.

Estimated cost \$221,279.35.

Proposals must be made out on blanks furnished at the office of the City Engineer, and be accompanied by cash or a check certified by a responsible bank for an amount of not less than 10% of the aggregate of the bid. Each proposal must be addressed to and the check made payable to the order of the President of the Board.

For the purpose of bidding, plans may be obtained from the Engineer upon the deposit of \$50, which will be refunded on the return of plans.

Work to be completed by January 1st, 1917.

BOARD OF LOCAL IMPROVEMENTS,
Sherman W. Eckley, President.

PAVING

XENIA, O.

Sealed bids will be received by the Director of Public Service of the City of Xenia, Ohio, at the office of said Director of Public Service in said City of Xenia, Ohio, until 12 o'clock noon of Tuesday, the 20th day of July, 1915, for furnishing the necessary labor and materials for the complete construction of about 17,200 square yards of street paving on King and Church Streets in the said City of Xenia, Ohio. Said contract includes about 11,000 lineal feet of curb and gutter, 3,000 lineal feet of storm water sewer and 20 storm water inlets.

Bids will be received on brick, wood block, sheet asphalt, asphaltic concrete, waterbound macadam and tarbound macadam.

Each bid shall contain the full name of every person or company interested in the same, and shall be accompanied by a bond to the satisfaction of said Director of Public Service, or a certified check upon some bank of Xenia, Ohio, said bond or check to be in a sum equal to five (5) per cent of the amount bid, as a guaranty that if the bid is accepted, a contract will be entered into and its performance properly secured. Checks of bidders whose bids are rejected will be forthwith returned. Checks of successful bidder to be returned upon execution of contract and securing same as aforesaid, otherwise to be retained by the City of Xenia, Ohio.

Specifications and plans may be obtained from the City Engineer, J. P. Shumaker, at the City Building, Xenia, Ohio.

Said specifications are in printed form and contain instructions to bidders, together with blank form of bid and other matters of importance to prospective bidders.

Bidders are required to use the printed forms, which will be furnished on application as above set forth.

The right is reserved to reject any or all bids.

June 23, 1915. C. W. WHITMER,
Director of Public Service,
City of Xenia, Ohio.

WATER-WORKS SYSTEM

TOTOWA, PASSAIC CO., N. J.
Sealed proposals will be received by the Mayor and Borough Council of the Borough of Totowa, Passaic County, N. J., until 8:15 P. M. on Monday, the 19th day of July, 1915, at the Council Chamber, in the Borough Hall, on Lincoln Avenue, in said Borough, for the construction of a water-works distributing system.

The work involved consists of furnishing all material and labor in the construction of about 11 miles of water mains (bell and spigot pipe), 4" to 10" in size, together with furnishing and installing about 75 fire hydrants, furnishing and setting about 150 gate valves and boxes, constructing two meter chambers, and other incidental work necessary to complete the system.

Bids will be received as follows (on any or all of the four below):

(1) For furnishing c.i. water pipe (bell and spigot) and special castings.

(2) For furnishing Fire Hydrants, Gate Valves and Boxes.

(3) For Construction (Labor and Workmanship, etc.).

(4) For the work as a whole (furnishing all material and labor necessary to complete the system).

Each proposal or bid shall be accompanied by a certified check for five per cent (5%) of the amount of the bid.

The contract bond will be fifty per cent (50%) of the amount of the contract.

Copies of the plans, proposal forms, specifications, and forms of bonds, and contract can be seen at the office of Wm. Ferguson's Son, United States Bank Building, No. 152 Market Street, Paterson, N. J.; or may be obtained by prospective bidders upon depositing five dollars (\$5.00) with Wm. Ferguson, Jr., Boro. Engr., which sum will be refunded upon return of plans and specifications within five (5) days after the contract is awarded, if same are in good condition when returned.

The Mayor and Borough Council reserve the right to reject any or all bids, waive any informalities in the bids received, and to accept any bids which it deems most favorable to the Borough of Totowa, N. J.

LINDEN REDMAN, Boro. Clerk.
WALTER R. HUDSON, Mayor.

CITY MANAGER

Municipal engineer desires appointment as City Manager or similar position. City Engineer for many years in a city of 30,000. Also experienced as member of school board, board of public works, and other municipal work. Can organize and manage efficiently. Best references. Address Box 31, care of THE AMERICAN CITY, 87 Nassau St., New York.

At a recent meeting of the Council of the Town of Ft. Thomas, Ky., three ordinances were adopted offering for sale electric light and water franchises for a period of twenty years, and gas franchise for a period of 10 years. The bids on electric lighting franchise to be accompanied by a certified check for \$5,000, and the bids for the water and gas franchises to be accompanied by a check for \$1,000.

Full particulars regarding these franchises may be had by addressing the Clerk of Council, Winston J. Ross, Ft. Thomas, Kentucky.

HEALTH EFFICIENCY EXPERT

Is your City interested in a health efficiency expert who has had a wide and varied experience with health problems? At present employed by the health department of one of the three largest cities in the United States. References and credentials of highest character. Box 35, THE AMERICAN CITY, New York.

Commercial Secretary

Specialized upon intensive committee work. Will be pleased to give detail of experience, secretarial training and references on request. Box 34, AMERICAN CITY, 87 Nassau St., New York City.

CITY MANAGER.

Have been training in New York for three years and have had practical experience in municipal work. American City, Box 32, 87 Nassau St., New York City.

Graduate Engineer, age 35, of good executive ability, wants position as City Manager, water superintendent or City Engineer. Has been city engineer and superintendent of water, street and sewer departments of small city, and in charge of reservoir and sewage disposal construction and design, and other municipal works for 10 years. Best references. Box 33, care THE AMERICAN CITY.

City Manager—Civic Secretary

Managing secretary of alert civic organization in large eastern city—good organizer, experienced speaker, energetic worker—would consider an opening as civic secretary of alert Chamber of Commerce or as city manager. Experienced in community sanitation and public health work, familiar with public and private relief methods, can direct campaigns for social legislation. Box 36, THE AMERICAN CITY, 87 Nassau Street, New York.

MUNICIPALITIES

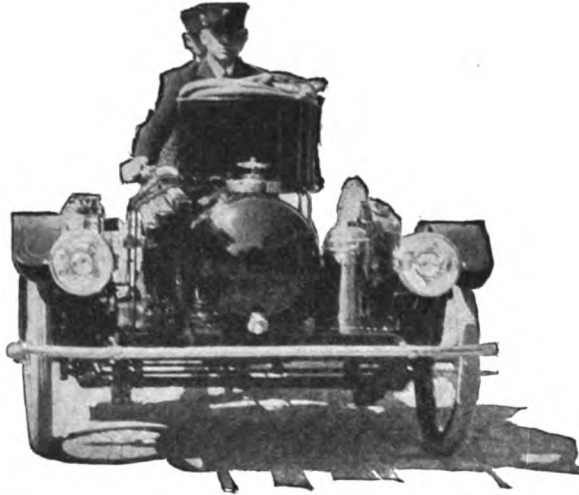
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FIRE! FIRE! FIRE!

When this cry is raised in your town—then it is necessary that your fire department be equipped with a speedy, dependable and easily driven chemical.

The ideal apparatus for your city, either independently or as an adjunct to larger apparatus, is the chemical that is motor-driven, inexpensive, easily handled, cheaply operated, speedy, sure and the one that is built to last and serve your community for years. With these conditions as a standard you can do no better—after all tests—than to specify and install the

DAYTON TRICAR CHEMICAL (Patent Applied For)

It has made good on all road conditions, under all weather conditions.

When the alarm rings, this chemical is the one that is ready to start and can always be counted on getting there first.

Because it is a Tri-Car and because of its easy system of control, it can be operated around corners quicker than the larger motor-driven apparatus. It can go almost anywhere—on sidewalks, through narrow alleys, be-

tween buildings—anywhere, where the fire rages and where you must quickly reach to effectively fight it.

The Dayton Tricar Chemical has a big use in any sized city. You will be interested in it as soon as you read of it—you will be enthusiastic about it as soon as you see it.

Send the coupon for complete illustrated literature.

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Send me without cost or obligation, Dayton Tricar Literature.

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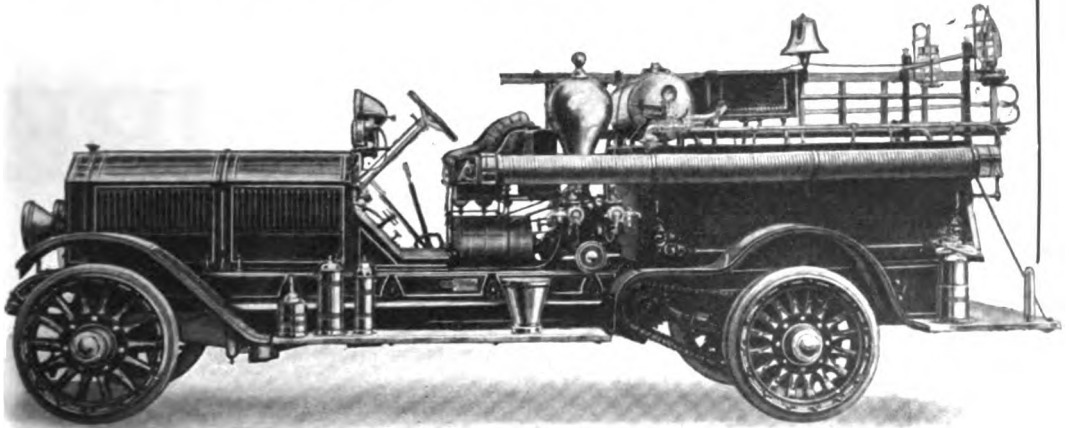
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Motor Pumping Engine

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Lack of vibration proves proper design and distribution of weight, which means Efficiency and Durability.



Type 19.—Pumping Engine, and Hose Car with Chemical Tank

Weight, 12,500 lbs. Hose capacity, 1500 ft. 2½ in. hose.

Write for catalog of complete line of Motor
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TIRES

"are durable, economical, satisfactory and relieve you from worry"

More Than 300 Other Chiefs Say the Same

—and that is saying much. It means that Firestone Tires are depended upon as a protective measure to life, limb and property in more than 300 American cities. Road grip—resiliency—endurance; these are the tire essentials that "relieve you from worry." These essentials mean quick starting and stopping—minimized side-lash—getting there with the least danger to men and mechanism whether over block, brick, asphalt or macadam pavements, wet or dry.

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"Registered U. S. Patent Office"

**Manufacturers of
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TELEGRAPHS**

**for
Municipalities and Private
Parties**

The Gamewell system of to-day is the outcome of the combined inventive genius and mechanical skill of many whose valuable services the company has been able to secure during the past fifty-seven years, in pursuance of its policy of meeting at any cost the requirements of the varied conditions existing in different localities.

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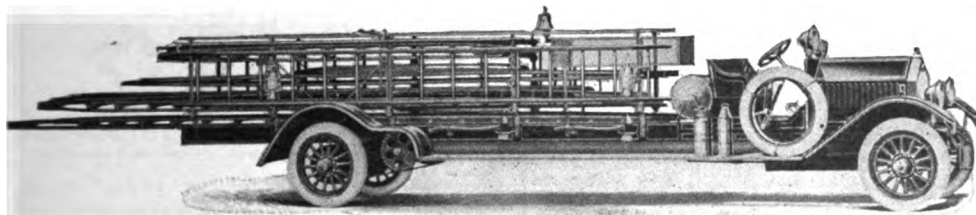
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There's no blaze too big—no fight too long nor hard for Ahrens-Fox. He's a born fire fighter. He never quits until the job is done. He'll heave water onto a big blaze hour after hour with his pumps—just as powerful and effective the last minute of the fight as the first.

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Before purchasing your new service truck, let us have your name and address. We will send you some important reasons why South Bend Double Duty apparatus stands for

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We manufacture all kinds of motor-driven apparatus for municipal use—fire trucks, police patrols, ambulances or service trucks of the highest type of construction.

South Bend Motor Car Works, South Bend Ind.



The Fire Hose You Will Eventually Buy

As a City Official you are interested in Safety — Efficiency — Economy. TWO-PART FIRE HOSE offers All Three.

It is a well known and Undisputed FACT that the Outer Casing and Inner Tube constitute the best Automobile Tire Construction. Last year the public spent over \$175,000,000 for this type of tire.

Two Part Fire Hose

offers the same principle in fire hose that has proven the BEST in tire construction.

In TWO PART FIRE HOSE you have the Outer Casing and Inner Tube. Should your Outer Casing break or wear out, your Inner Tube remains—Ready for additional service in new casing. Should your Tube crack, your casing remains in good condition ready to house another Tube.

Compare this with the old-style fire hose and you will see why TWO PART FIRE HOSE combines:
Safety—Efficiency—Economy.

Write us for our Two Part Booklet—it will give you FACTS based on Correct Common-Sense Principles of TWO PART FIRE HOSE Construction.

CHICAGO FIRE HOSE CO.
53 West Jackson Blvd., Chicago



"STAR Equipment" for the Latest Brooklyn Tunnel

The safety of the millions who travel in New York's great system of subways, is absolutely dependent upon the perfect working of electric signal apparatus. Hundreds of conservative tests are made every year to sift the best and most efficient apparatus from the newest developments and improvements. It is significant that the most recent of these great tunnels is to be equipped with—

Star Electric Equipment

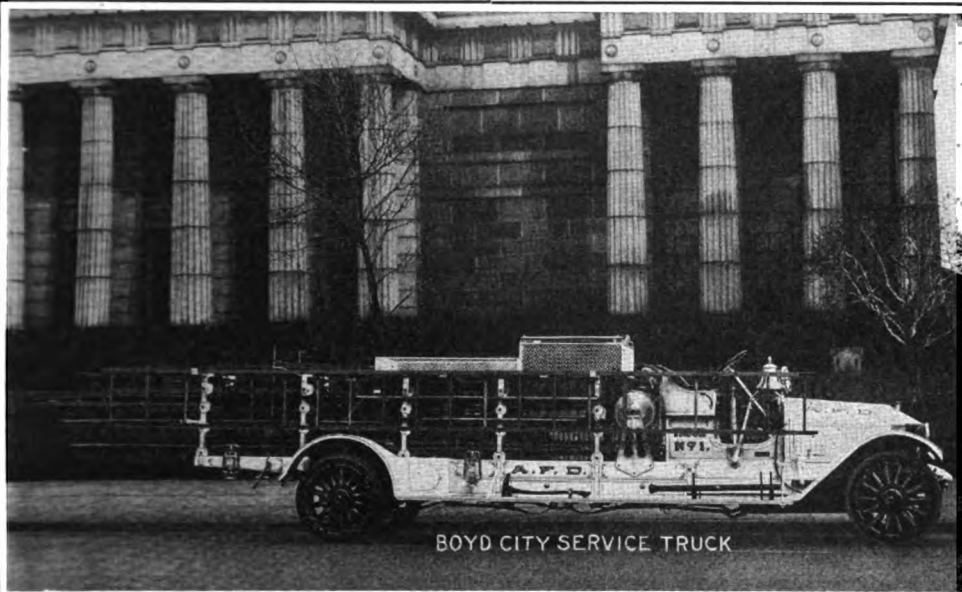
Our contract calls for 118 "STAR" Emergency Alarm boxes—17 "STAR" Switchboard panels—17 "STAR" Turtle gongs and other apparatus necessary to complete the installation.

The selection of "STAR" apparatus for the newest subway, following the selection of the same apparatus for the Panama Exposition, is certainly a final answer to all questions concerning the relative efficiency of the different systems now on the market.

Write us for information and quotations on your special requirements.

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"MY attention has frequently been called to the clumsy appearance and awkward design of so many of the fire trucks now on the market.

"The exception to this rule is found in the **Boyd City Service Truck**. It couples maximum strength and efficiency with pleasing appearance and excellent design.

"Only the best and strongest material is used in the construction of this truck, and it is designed and built by men long experienced in building fire trucks.

"People tell me that this firm has established such a reputation for **Quality** that the name **Boyd** on a fire truck has come to correspond with '**Sterling**' on silver."

—The Observer.

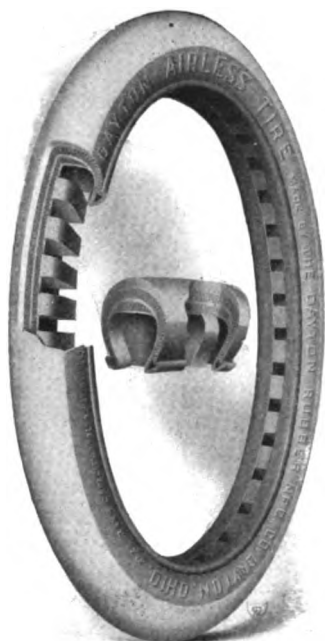


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"Builders of the Best"

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500 Cities Have Stopped Experimenting With Tires



500 hundred North American cities know that there is only one tire that will fill the harrowing requirements for motor fire apparatus.

Any pneumatic tire might fail—blow-out—or puncture at a critical time—when life and property are at stake. The solid tire is not built for speed. It jolts and jars the equipment, and the apparatus may be in the repair shop when the gong rings.

DAYTON AIRLESS TIRES

are neither pneumatic nor solid. They can't puncture nor blow out. The piers of new, elastic, resilient rubber absorb all the jolts and bumps. They ride easier than a properly inflated pneumatic.

The Manufacturers' Choice

75% of all the new Motor Fire Apparatus made in America is equipped with Dayton Airless Tires.

THE REASON is because they are the only tires that combine all the necessary features of the ideal fire apparatus tires—namely, speed, durability, easy riding and reliability. When you buy Motor Fire Apparatus specify the Dayton Airless Tires. Insist on them. Send for the booklet "What Fire Chiefs Say."

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1013 Kiser Street DAYTON, OHIO

A Fire Hose of unusually careful manufacture Wax and Para Gum Treated

The lining is of fine Para Gum, hand made, four calendered, smooth bore or lap-jointed.

Circular balance woven, each strand of cotton is treated to a bath of melted Wax and Para Gum, then cabled and woven into the jackets.

Absolutely waterproof, making the ideal hose for fire departments.

Treatment lubricates and solidifies the strands of cotton, assuring long wear.

Made in all sizes from
1 to 6 inches inside diameter

Fabric Fire Hose Co.
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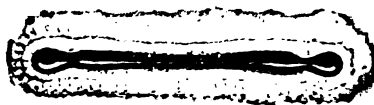
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Bi-Lateral Fire Hose



End View of Bi-Lateral Hose Flattened

Will not crack

There is nearly two and a half times the usual amount of service in Bi-Lateral Fire Hose. Judge for yourself:

The rubber lining is left free from its jacket in Bi-Lateral Hose where congestion takes place in hose of old construction. By allowing the rubber lining here its freedom, when the hose is flattened, the Bi-Lateral tube takes two curves at the points of fold, which relieves the compression (see illustration) whether the hose is flat or under pressure.

It is the most pliable hose made and can be flattened without injury.

Bi-Lateral Fire Hose Co.
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FIRE HOSE

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In Lengths up to 1000 Feet

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For any kind of a PUMP

That you may require for municipal service, it will pay you to investigate our line. We make hand, windmill, power and spray pumps for nearly all pumping conditions, including municipal waterworks outfits, deep well working heads, etc.

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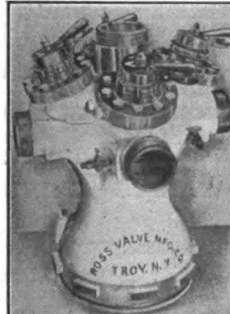
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High Pressure Fire Specialties, Portable Hydrant Heads

Our Regulating Valves control the high pressure on the Fire Service Systems of

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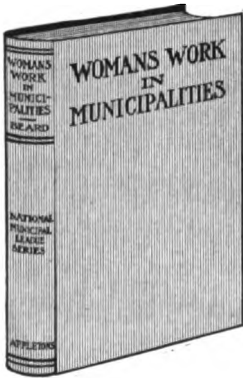
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*An important book for the
Municipal Housekeeper*



WOMAN'S WORK IN MUNICIPALITIES

By Mary Ritter Beard

The influence of the modern woman in the housekeeping of the country, and more particularly in the housekeeping of the municipality, has become not only an acknowledged fact but it is a fact welcomed by the men everywhere, who

realize that it is not the business of the women to supplant men in political life, but rather to act in the capacity of an indispensable, supplementary adjunct to their own efforts to perform the work of the City Government. Mrs. Beard's book is the only volume to date that relates the extent and variety of the efforts of American women to make American cities more healthful and happier places in which to live. It is a book not only for women, but it is a book of great importance to men, for it demonstrates very clearly, and by practical example, how remarkable and necessary are the contributions which women can and do make to the efficiency of municipal housekeeping.

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water is the element most essential to human life. When every family provided its own supply by digging a well in the back yard, quite likely as not in the direct line with the drainage from the privy, or dipped it in buckets from an adjacent stream, it was looked upon as one of nature's gifts—free for the taking. To a considerable extent, this impression is still general, but in another generation it will have been relegated to the limbo which holds so many things that were but are no longer. The rapid growth of centers of population and the settlement of millions of acres of land that is only made available for agriculture by irrigation are two of the principal factors responsible for altering the popular conception in this regard. Few communities are now too small to boast a water-works system and to have the water flow when you turn the faucet instead of laboriously lifting it from a well, and you must hand over your share of the needful to support the system.

No one realizes so keenly the value of water as the farmer who depends upon it for irrigation. Thus when both the city man and the farmer are of the same mind on the subject, water comes into its true status as a commodity of value that must be bought and paid for. To accomplish this with equal justice to buyer and seller, **it must be measured.**

The day of universal metering is approaching nearer and nearer. Are you helping that day to come for your city or town? Would you like our free literature on the subject to help things along? All we need is your address.



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*Pipe Hydrants, Valves,
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**Frost-Proof
Simple-Efficient**

All parts removable without digging up hydrant. Special device prevents street from being flooded should stand pipe be broken. Minimum expense to install and maintain.

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Gas, Oil, Hydraulic
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All styles, any size, all pressures

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For Municipal and Private Water Systems

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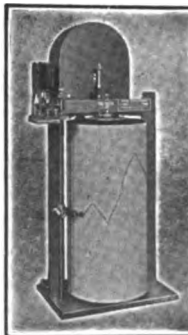
The Best Material for CALKING
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Write for particulars to

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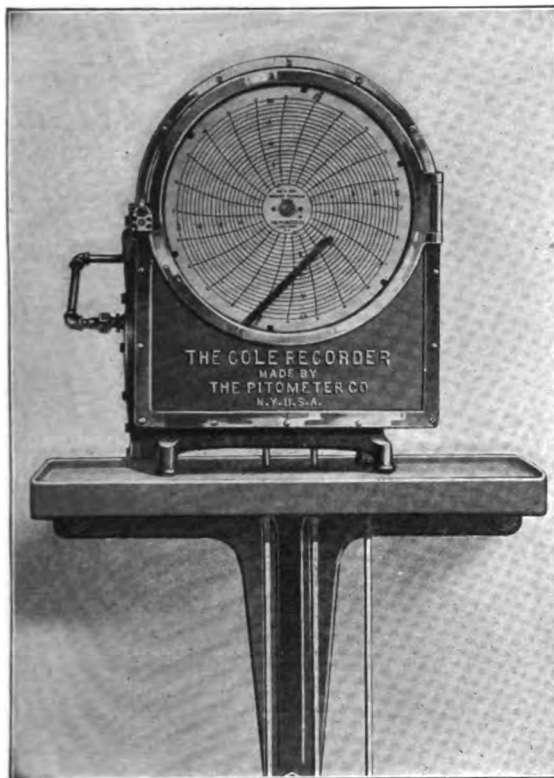
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Made in 19 different types.

Can be operated several
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The COLE Recorder

This instrument operates under a new principle and is the only Self-Computing Recorder for the *Pitot tube* or *Pitometer* which is accurate at low velocities as well as high.

The pen record has ordinates *directly proportional to the flow*.

NO TABLES required.

Its magnet driven "spiral" eliminates friction.

NO MERCURY nor any other liquid than water is used.

Its accuracy is unequaled by any other instrument except our well-known Prism Photo-Recorder.

Especially adapted for *continuous Station metering*; also for *water waste surveys* and general tests of flow in pipes for any purpose.

Our booklet, "The Cole Pitometer System," should be in the hands of every Water Works man. Send for your copy now.

THE PITOMETER CO.

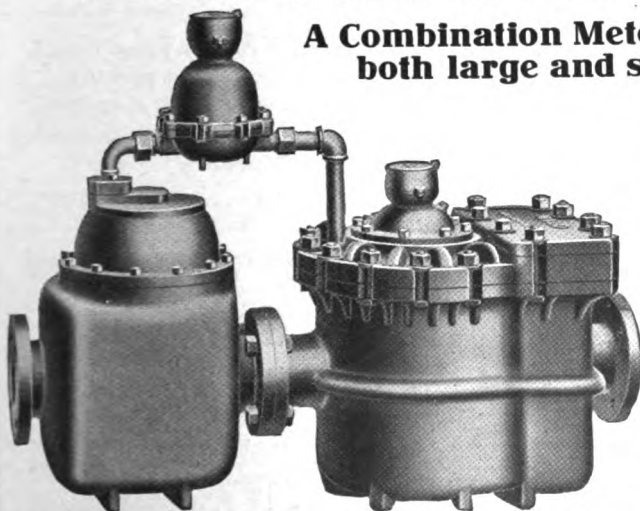
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THE NILO COMPOUND METER

Meets the demands of water works officials—

**A Combination Meter for measuring
both large and small flows correctly**



The Nilo Compound meter is a combination of the Nilo meter, a high-duty meter of acknowledged accuracy, durability and capacity and the King Disk meter which is unexcelled in accuracy on all flows within its capacity, together with an automatic double differential vertical valve, guided and united by a central stem.

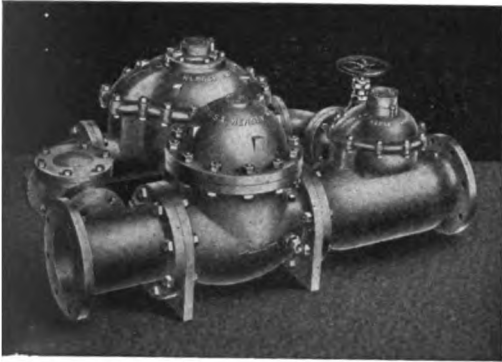
Detailed description of meters for all services and conditions on request.

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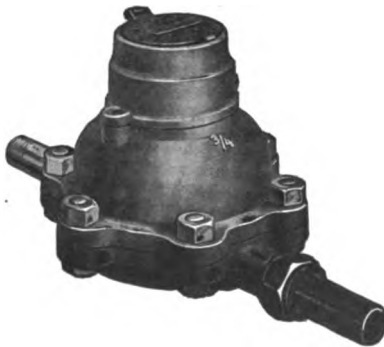
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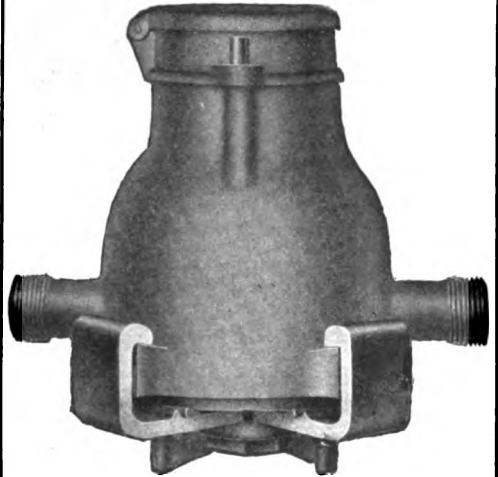


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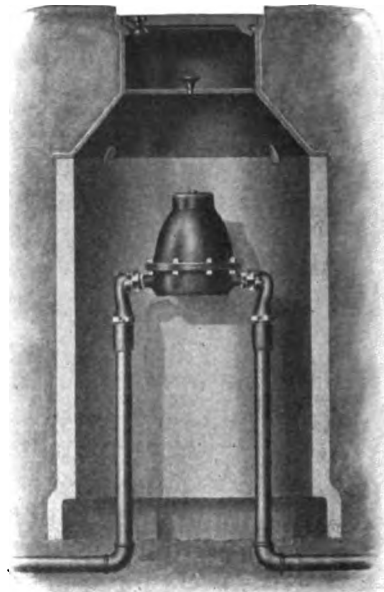
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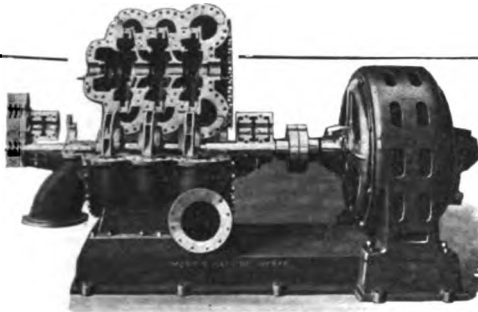
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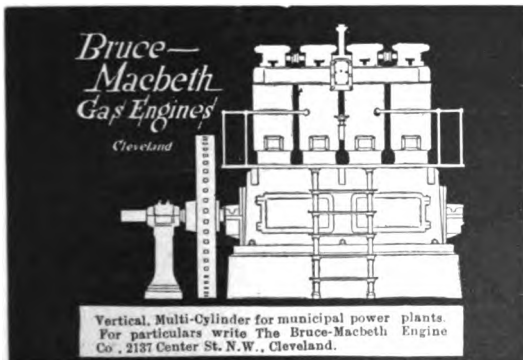
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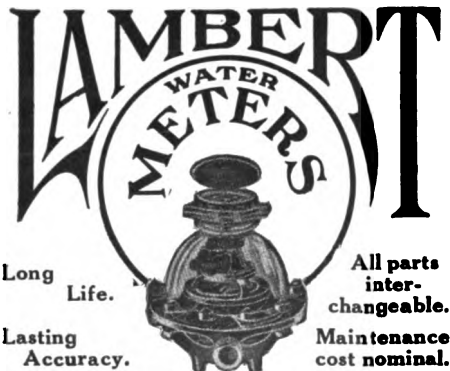
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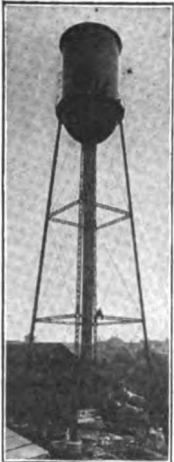
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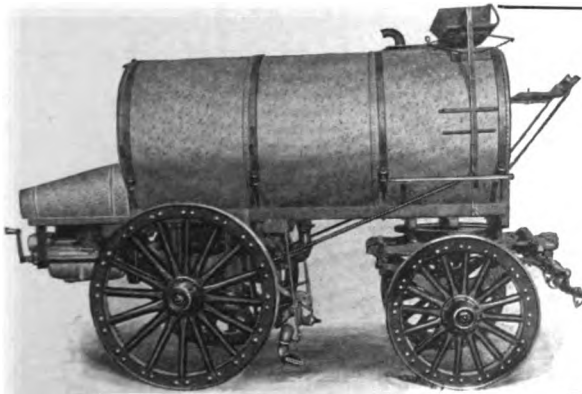
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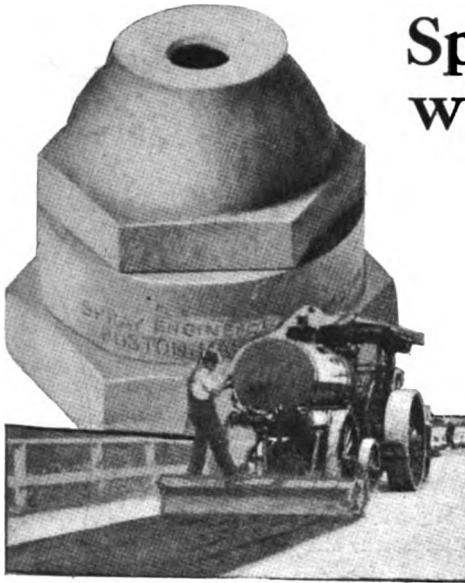
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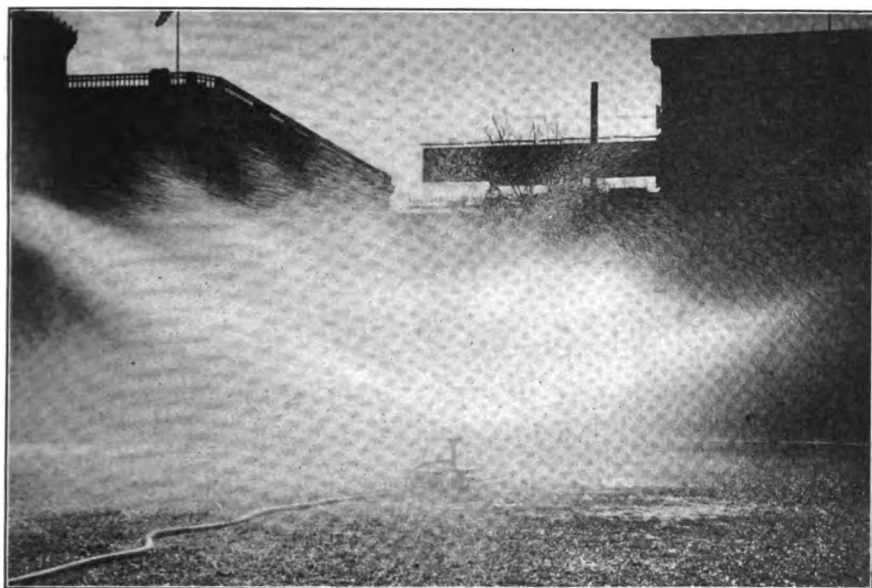
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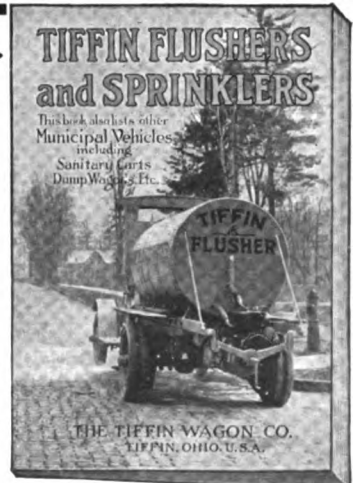
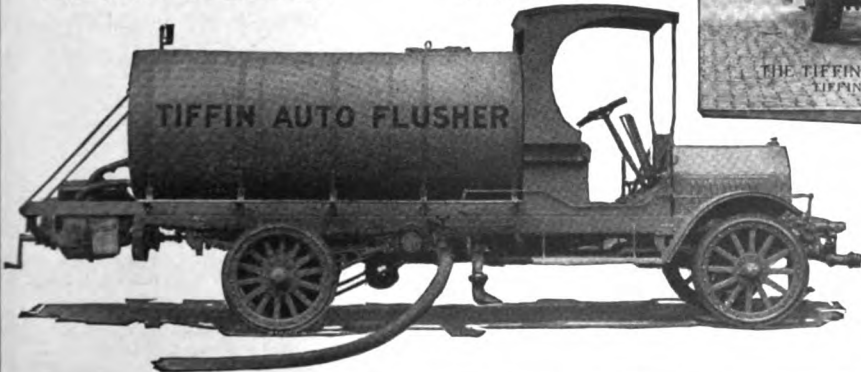
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Lessons From European Practice in Locating Public Utility Structures

By Louis A. Dumond

Secretary-Engineer, Commission on Downtown Municipal Improvements, Chicago, Ill.

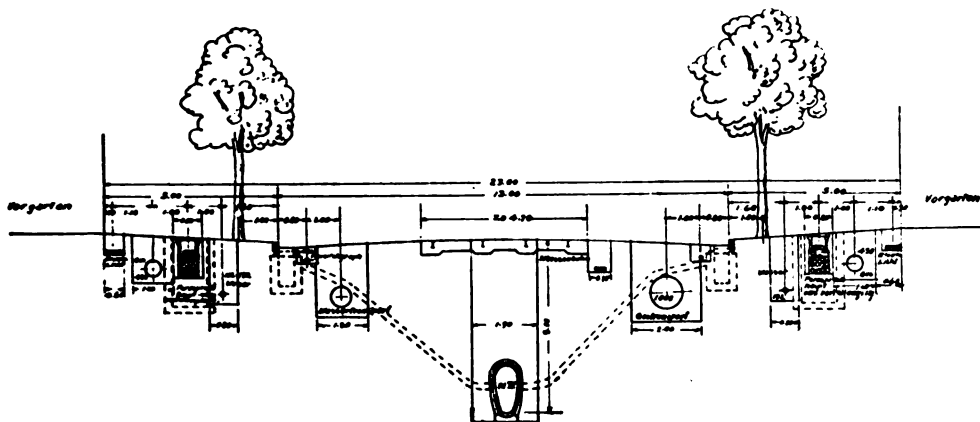
IN America the practice of locating public utility structures beneath the pavements is almost universal. Realizing that the experience of some of the larger European cities in dealing with such structures might be of value, the Commission on Downtown Municipal Improvements sent the writer to Europe in the summer of 1914. Cities in France, Italy, Austria, Germany and England were visited before the outbreak of the war prevented further investigation. This article will attempt to outline briefly some of the methods observed and draw from them certain lessons applicable to American conditions.

The various methods of handling public utility structures may be divided, according to the space utilized, into four principal classes:

1. Location beneath the pavements
2. Location beneath the sidewalks
3. Location in large sewers
4. Location in pipe subways or galleries

Location Beneath the Pavements

Placing all public utility structures beneath the pavements independently of each other is the system—or, as some would say, the lack of system—employed by all American and most English cities. Everyone is familiar with the results of this system in large cities, especially those having many high buildings. The endless tearing up of expensive pavements, the interference with business and pleasure, and the consequent high cost of maintaining the systems, are well-known facts which have often been the subject of unavailing protests. The sub-pavement congestion in some cities is so



STREET SECTION, HAMBURG, GERMANY, SHOWING SUBSTRUCTURES

great that it seemingly calls for radical changes in the near future.

The evils produced by different utilities when placed beneath the pavements are relative. Sewers generally have been placed beneath the center of the street in all countries, since, when properly designed, they require but little subsequent attention.

Location Beneath the Sidewalks

In general, it can be said that the cities of France, Italy, Austria and Germany locate all utilities, except the main sewer, beneath the sidewalks. In the large cities of these countries the space between the building line and curb line is not excavated, as is the case in American cities. One may conclude offhand that locating the utilities in the sub-sidewalk space simply transfers the difficulties of their maintenance from the street to the sidewalk, but it is believed that a further consideration will show that some real advantages are gained.

In all of these cities a very complete system of regulations for locating the utilities are enforced. Exact locations which vary with the width of the sidewalk are prescribed, so that knowing the width of the sidewalk, one may locate with precision any given utility. In this respect, the regulations of Munich, Dresden and Berlin are notable. It should be mentioned that in France, Italy, Austria and Germany the majority of the utilities are owned either by the municipality or the state, but there seems to be nothing in their regulations which would make them inapplicable to privately owned utilities.

The expense of getting at the utilities is materially lessened by reason of the fact that the sidewalk pavements are all of light construction, no concrete or cement pavements being employed. In France and Italy a tar or asphalt composition, similar to our asphaltic concrete and from one to two inches in thickness, is used. This pavement is laid directly upon the earth. Considering the light construction, its durability is remarkable. In Austria and Germany these tar and asphalt pavements, together with brick and stone blocks, are employed. In Berlin the sidewalk pavements are of large stone blocks, with one or two strips of pavement about three feet in width of small stone cubes, or "Kleinpflaster." This small stone cube pavement is designed to

permit any leaking gas to escape and also to allow air to reach the roots of trees planted near the curb lines. All openings made for repairs or extensions are repaired immediately. The earth is replaced and carefully tamped and the sidewalk rebuilt. It is not uncommon to see a large section of sidewalk taken up in the morning and by evening so skilfully replaced that it would be difficult to tell where the opening had been made. European engineers cannot understand why temporary repairs, so usual in America, should be tolerated.

A notable characteristic of all the cities is the accurate system of record maps they keep. Drawn to scale and portrayed in distinguishing colors, the exact size, location, depth below surface, grade, etc., of all utilities in each street are indicated. All utility work is required to be performed during the summer months. A new street pavement once laid, no openings are permitted for periods varying from five to ten years. Such a statement is almost beyond belief when we see pavements torn up in from five to ten days after completion.

The municipal officials who administer the public utility regulations are chosen on merit and their positions are permanent. As an illustration, Oberkommandant Max Niedermayer, in charge of utilities in the city of Munich, has been in the department forty years.

The advantages which are claimed for the location of utilities beneath the sidewalks may be summarized briefly as follows:

1. It costs less to remove a cheap sidewalk than an expensive pavement. In other words, the maintenance cost is lowered.
2. It is maintained that utilities placed beneath the sidewalks have a longer life than those placed beneath the pavements, due to the absence of shocks and vibrations from overhead traffic, settlement of the earth, etc.
3. The interference with pedestrian traffic is negligible as compared with vehicular traffic and causes no economic loss.
4. The installation of transportation subways is made considerably less expensive where no utilities have to be supported and maintained in service during construction.
5. Expensive pavements are not destroyed and their normal life reduced.
6. The absence of the large number of man-holes and special work is a real asset.
7. The expense of maintaining utilities being less, the municipality can obtain lower rates for the services furnished.

Location in Large Sewers

The sewers of Paris are famous throughout the world and need not be described at length. These sewers are really large egg-shaped utility galleries with a rectangular sewage channel running through the center or at one side in the smaller sewers. They vary in size from about 7 to 27 feet in diameter. The large sewers are provided with narrow-gauge tracks for the transportation of pipes, cleaning apparatus, etc. The piping systems are carried upon cast iron supports set upon either side of the sewage channel. The telephone wires, power wires, etc., are supported upon brackets attached to the walls of the structure.

Perforated manhole covers, allowing for ventilation and permitting the ingress of workmen, are provided at intervals. The air in the sewers is fresh, although a slight musty odor associated with sewage is noticeable.

Access to the homes from the sewers is provided by a series of small side tunnels running to the building line, where they are closed by a wooden wall, which prevents workmen from entering private buildings and citizens from entering the sewers. The sewers carry the main services of water, telephone, telegraph, electric light and power, and pneumatic tubes. Gas mains are not carried, apparently through the fear of possible explosions. The gas mains are buried near the curb in narrow streets and in the sidewalk space in wide streets. The sub-sidewalk space often carries small distribution services from the mains located in the sewers. The streets are noticeable for the lack of any evidence of disturbance of the pavement for public utility work and for the absence of manholes.

Pipe Subways or Utility Galleries

The first pipe subway was built in connection with the creation of Garrick street in London in 1861 and was the result of a competition instituted to discover the best means of obviating the expense occasioned by maintaining utilities beneath the pavements. In the creation of new streets since the building of this gallery, pipe subways have generally been provided, so that to-day there is a total of 8.2 miles of pipe subways in the city of London, occupying thirty-one different streets. This mileage constitutes about 75 per cent of the total mileage of

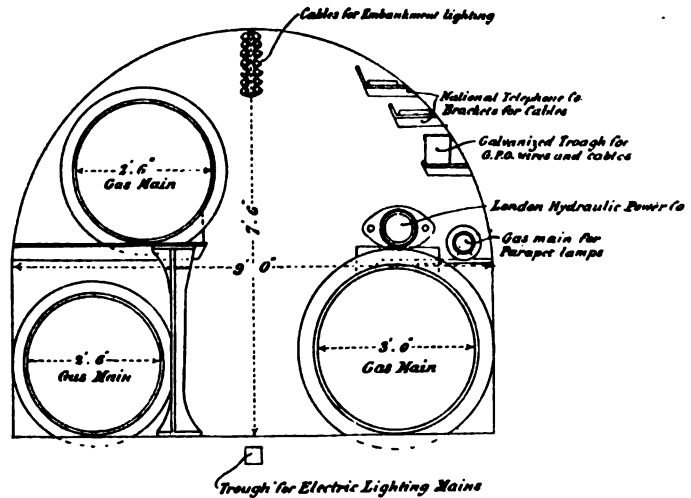
pipe subways in the world. Since these pipe galleries have in all cases been built in connection with new streets, their cost—which has varied from \$17 to \$40 per lineal foot—cannot be taken as a criterion of what the cost would be in a street where the utilities have already been installed independently beneath the pavements. The subways vary in size from 4 x 8 feet to 12 x 7 feet 8 inches, the large majority of all subways being 12 feet in width and 7 or more feet high. The location of the subways has generally been beneath the center of the street, with laterals extending to the property line, but in some cases, notably the Holborn galleries and the new Kingsway and Aldwych galleries, the location has been in duplicate beneath the sidewalks.

The ownership of utilities in London is similar to that existing in the average American city. With the exception of the sewers, a part of the water-supply and a few of the street car lines, all utilities are privately owned.

The installation of utilities in the pipe subways is provided for in the regulations of the Public Health Department, which state that where subways exist in the streets they must be utilized by the authority or company requiring to lay additional pipes, conduits, etc., and no opening except for conducting mains into or from subways will be permitted in such streets.

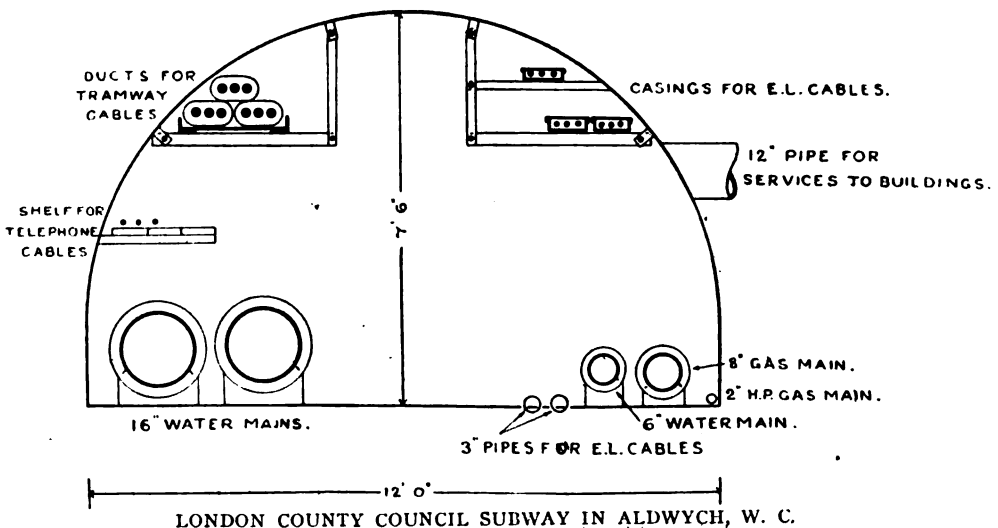
The pipe subways in Aldwych and Kingsway, constructed in 1906, are the most modern of the London galleries. In their general features they may be considered typical of these facilities as used in London, Nottingham, St. Helens and Glasgow. In cross-section they are 12 feet wide, 7 feet 6 inches high, with a semi-circular roof, and are constructed of two rings of brickwork backed by concrete. The floor is covered with 3 inches of gravel. The larger pipes are supported upon pipe rests upon this floor, the small pipe laid directly upon the floor, while the conduits and cables are carried on a system of iron brackets attached to the brickwork. All pipe and conduit are so arranged that a clear way of about 2¾ feet is left through the center of the gallery. Access to the subways is obtained through gratings located in the sidewalk, some of which are of suitable size to permit long lengths of pipe,

conduit, or cable, to be lowered. Ventilation is furnished by perforated cast iron covers 2 feet in diameter, placed at 75-foot intervals. Five cross-pipe subways, 7 feet 6 inches wide by 7 feet 6 inches high, carry utilities from the main subways in Aldwych and Kingsway to the intersecting streets. Lateral service to the buildings is conducted through 12-inch glazed pipe placed at 10-foot intervals. Six-inch house connections with the sewers, which were placed beneath the center of the galleries, are provided at 30-foot intervals. The subways above described are constructed on both sides of Aldwych and Kingsway beneath the sidewalk, the center of the street being utilized by a street car subway. The present occupancy includes two 16-inch water mains, an 8-inch gas main, a 6-inch water main, two 3-inch pipes with electric cables, a 2-inch high-pressure gas main, through ducts for street railway cables 6 x 12 inches, through ducts for electric cables 4 x 8 inches, and several lead-covered telephone cables. The amount of utilities carried could be easily increased several times without producing congestion.



LONDON COUNTY COUNCIL SUBWAY, VICTORIA EMBANKMENT

Although about one-half of the London pipe subways are under the control of the London County Council and the remainder under the control of the Corporation of the City of London, the regulations for use of the subways enforced by each body are practically identical. These regulations apply chiefly to the manner of doing work in the subways and provide in brief for the most rigid municipal regulation. An examination of the rates charged different utility companies for the use of the pipe subways shows that for the majority the rates vary in amount with each subway and bear but little relation to the length of subway occupied. A further discrepancy is



LONDON COUNTY COUNCIL SUBWAY IN ALDWYCH, W. C.

found in the division of the utility companies into classes; water and gas companies, having the power to break up streets, being charged rates which are only from 1/10 to 1/2 as much as those charged other companies. These discrepancies have been recently recognized, for at the time of the writer's visit a new schedule of rates, worked out upon a unit basis and equalizing the charges for occupancy made to the different companies, was being proposed for adoption in place of the present rates. The basis taken for figuring the new rates was the amount of money saved the companies by the use of the subways, capitalized at 4 per cent.

Several representative pipe galleries were inspected and the engineers in charge interviewed. It was found that all the ordinary utilities, such as high- and low-pressure water, high- and low-tension electric cables, high- and low-pressure gas, sewers, pneumatic tubes, etc., are carried. About one-half of the galleries are illuminated by electric lights and the remainder by open gas jets often in close proximity to gas mains or high-tension cables. Although gas mains are carried in the pipe subways of London as well as those of St. Helens, Nottingham and Glasgow, no explosions or accidents have ever occurred. Daily inspections of each London pipe subway by municipal officials insure against the possibility of any leaks or other defects developing. The air in each subway was fresh. The condition of all utilities was also notable for the absence of any rusting or other evidences of deterioration. In addition to the keys to the subways kept by the municipal engineers, the police and fire brigade stations are also provided with keys for use in cases of necessity.

A comparison of the total cross-sectional area of utilities found in a number of typical London pipe galleries with the amount existing in some of the congested downtown streets of Chicago indicates that Chicago streets have from twice to four times the amount of utilities that London's crowded streets carry. This difference is easily explained by the greater height of buildings found in the downtown district of Chicago, as compared with the low, uniform building heights of London.

The pipe subways of Nottingham and St. Helens, which in each city total about one-

half mile in length, were also inspected. Those of Nottingham were built in connection with the creation of new streets, while those of St. Helens were built in connection with the rehabilitation of several streets. In both cities they were modeled after the London pipe galleries and therefore present similar features. In these subways also, gas mains are successfully maintained. Although the city of Glasgow was not visited, it may be mentioned that it has a small pipe subway 345 feet in length in Albion street between Trongate and Bell. This subway was built in an old street and cost but \$17 per lineal foot.

The power of excess condemnation possessed by English cities has been of greatest value in enabling them to build pipe subways in connection with new streets. The sale of property after the completion of the improvement at an increased value often pays a large part, if not all, of the cost of the improvements.

Lessons Suggested by European Practice

1. There is need of a more strict system of regulations regarding the placement of public utility services. Such regulations should be drawn and enforced with the basic idea of avoiding duplications in the systems and conserving the available space for location to the greatest extent. In the regulations each company should be required to submit preliminary plans for approval, showing the work as proposed and its relation to other work in the street, as well as final plans showing the work as constructed in relation to other work.

2. The enforcement of the city's regulations should be by an officer of technical training and experience in public utility work, whose term of office shall depend only upon meritorious service and be independent of changes wrought by politics.

3. An accurate system of record maps should be kept, showing all utilities in each street, together with all necessary information as to grades, depth below surface, etc.

4. There is need of greater use of the sub-sidewalk space generally for the location of public utility structures. Whether the utilities are buried in unexcavated space or the excavated sub-sidewalk space is used as a gallery, a saving in their maintenance cost may be effected.

5. In large cities, where the sub-sidewalk space is used by the buildings or their tenants, legal steps should be taken, if necessary, to recover this space for public use.

6. Studies should be made to determine whether the savings in maintenance cost, which will be made by locating utilities in the sub-sidewalk space when used as a gallery, will justify charging the companies a rental for this space.

7. Gas mains may be carried with safety in a gallery which is well ventilated and subject to daily inspection.

8. Utility galleries, such as are used in London, or large sewers, such as are employed in Paris, are not generally applicable to American cities because of their high first cost. Utility galleries may be advisable in connection with subway construction or in cases of extreme congestion where independent placement has used all the available space. The savings to the utility com-

panies and to the public should be sufficient to pay the fixed charges and maintenance of the galleries plus the cost of placing the utilities in the galleries, if a general system is to be justified.

9. Where it is evident that savings will be made by locating utilities in the sub-sidewalk space, the city should take steps to obtain the necessary legal power to compel the use of this space by the utility companies in case the companies will not agree to locate their services in the space.

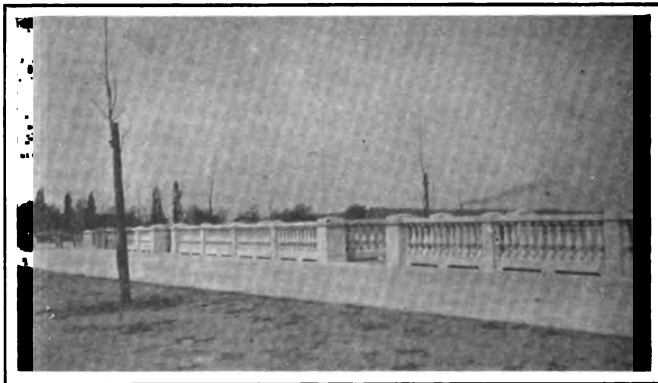
10. Where the savings to the public and to the companies do not prove sufficient to justify the immediate removal of the utilities from the street to the sub-sidewalk space, a plan may be devised whereby all extensions or additions to the systems will be placed in the sub-sidewalk space and all work in the streets will be placed in the sub-sidewalk space when it has become sufficiently depreciated to justify renewal.

A Water-Front Balustrade

The Park and Recreation Department of the city of Boston has constructed a concrete balustrade along the water-front at Marine Park, South Boston. The fence is on the outer edge of a wide granolithic sidewalk which extends from the Head

The erecting was done by contract.

Trees of the ginko variety are planted in bays in the balustrade at about 50-foot intervals, and also along the inner side of the walk. In connection with the construction of the balustrade, the beach has been lev-



CONCRETE BALUSTRADE AND GRANOLITHIC SIDEWALK,
MARINE PARK WATER-FRONT, BOSTON

House to the end of the Castle Island Bridge, a distance of about a quarter of a mile.

The parts were cast by the Department's own employes at the construction headquarters in Franklin Park. Posts, caps, rails and balusters were each cast separately, there being in all about 3,000 parts.

eled and surfaced with fresh beach sand, A large part of the cost of this work was borne by a wealthy Boston citizen, who contributed \$16,000 toward furnishing employment during the past winter to Boston's unemployed. The new balustrade and walk are a marked advance over the conditions prevailing before their construction.

ENGLISH HOUSING FROM AMERICAN POINTS OF VIEW

Editor's Note

Last summer the National Housing Association organized a party of American housing workers who visited England to study English methods and the results of English experience. There were altogether sixteen members in this party, representing all the phases of American housing work. During their first week in England they joined the International Garden Cities and Town Planning Association tour, visiting London, Birmingham, Chester, Liverpool, the garden city of Letchworth and many of the garden suburbs. The second week eight members of the party again went over much of the ground covered by the international tour in order to study more carefully subjects which the schedule of the first week had not permitted them to examine thoroughly, and to visit other places, such as Manchester and Ruislip, which had been skipped entirely.

Each of the Americans was made responsible for some one phase of English work. On this phase he or she was expected to be the leader, and both on ship-board and afterward during the time the

party was together in England there were daily conferences at which each in turn took the lead. There were two results of this policy. One was that the Americans asked so many searching questions that they became somewhat of a terror to their English guides. The other was that they secured much more information than they could otherwise, and were enabled to check up conflicting testimony.

After the trip was officially ended, several of the Americans continued their investigations. Some visited other English, Scottish and Irish cities. Some went to the Continent, to Germany and France, where they were caught by the outbreak of the war.

Last November the National Housing Association held a conference at which the results of the trip were informally discussed. Six members of the party have prepared papers on those phases of English work which most interest them. Two of these papers follow. Others will appear in the August and September issues of *THE AMERICAN CITY*.

Distribution of Population in Cities

By Edward M. Bassett

Chairman, Commission on Building Districts and Restrictions, New York City

CITIES grow to be great because they are favorably located for bringing working places and workingmen together. The efficiency of any great city can be gaged by its attractiveness and wholesomeness for workingmen. If the city consumes families instead of multiplying families, it will in the long run be the inefficient city, regardless of its natural advantages. The crowding of the homes of many working people into a small space has been one of the greatest evils. The day

has come when all modern cities are giving attention to the spreading out of their working population.

London is a round city, and its natural development as well as planned results contain much instruction. The shape of the city has allowed it to spread on every side, as it is not hemmed in by waterways or mountains. The windings of the River Thames have served to distribute its centers of industry. Railroads entering from every direction have further brought about

distribution of working-places. On account of this wide distribution of working-places, there has followed a wide distribution of small homes. The prevailing type of dwelling in London is a low house, seldom over three stories high, and in the outlying districts almost always two stories high. Although the low-wage earner cannot ordinarily have a little home with ground around it, yet more workingmen dwell in small homes with access to the soil than in any other large city that I know. The excellent maps of the report of the royal commission on transportation in London show that during the last thirty-five years the central portions of London have become less and less densely populated, and that the mass of workingmen have been more and more distributed in the outlying districts.

The rehousing schemes have had a little to do with this. The wide distribution of working-places has had more, and the low fares with many and frequent methods of transportation have contributed still more. The trunk line railroads have not been allowed to exclude workingmen from their facilities, but, on the contrary, have been either persuaded or compelled to give low fares to workingmen at certain hours. Zone fares on all public conveyances have made it possible for a workingman to go to and from his work, sometimes three separate systems constituting his trip, such as bus, trolley and tube, at an expense not exceeding twelve cents per day. In most cases the expense of workingmen riders does not exceed eight cents per day. The wide distribution of working-places allows a greater degree of walking than in most other large cities. And even where riding is necessary, workingmen do not have to be carried through the financial and big business centers in going to their work. No other great city presents such a network of trunk line railroads, tubes, trolley lines and bus lines. There are no bottle-necks like the Brooklyn Bridge and Battery tunnel of New York City.

The government of every large city has for its main duty, a duty amounting to a sacred trust, the oversight of that land which constitutes the circle of the city. It fails in that duty if it encourages a long city or intensive development along a few radii for the sake of making high land values.

The wise layout of transportation systems is most important. The fare must be kept low and interchanges without extra fare must be frequent. Inexpensive methods like omnibuses and surface car lines should be linked up with rapid transit.

Some say that the habit of workingmen, especially in large American cities, is to live in congested localities. This is true. But it is a habit which several generations of opportunity to live in small homes near the soil will alter. A rapid alteration of this habit is now going on with the German workingmen. They used to have the walled town habit.

Climate has much to do with spreading city population. English climate is moist, and the prolific and beautiful little garden is easily kept. In New York it is quite different. American cities must work out their own methods adapted to their climate, their people and their needs, but encouragement should be given at all times to small homes where people can live in the sunlight and near the soil. Hampstead Gardens is beautiful and instructive, but it is not the place for the low-wage earner. It shows what can be done through community co-operation and proves that people of modest means can have beautiful homes in the outskirts of a great English city. Letchworth is an interesting experiment and the idea is bound to be followed in many places. Ebenezer Howard has his enthusiastic followers in every European country. The trend of study and success will, however, be community design under laws (the crystallized demands of the majority of the community) instead of community design by private corporation or contract. The English Town Planning Act points the direction of the greatest hope. Port Sunlight and Bournville are splendid examples of what the employer can do for his men, but are of slight importance compared with the beginnings of what citizens of all classes, including workingmen, can do for themselves.

Large cities in England are outstripping many of the small towns in aiding better distribution of population. This seems to be on account of having more attention given to the subject. I could name many small English cities almost medieval in character where the crowding is dreadful, and very little seems to be done or thought of toward getting families out into the sun.

Economical Estate Development in England

By Maurice R. Scharff

Principal Assistant Engineer with Morris Knowles, Consulting Engineer, Pittsburgh, Pa.

MUCH harm is done to the cause of good housing in America by ill-considered comparisons of rentals here and abroad. Housing enthusiasts not infrequently point to the accommodations that are available to the laborer in England at six or eight shillings a week, and ask why similar advantages cannot be offered in New York or Pittsburgh, the implication being that the greed of the American landlord is principally or wholly responsible.

To one who examines the English housing experiments from the engineering point of view, it is at once apparent that such comparisons can be of no value, as they are not based on comparable standards. The factors in these apparent differences are more complex than such simple reasoning assumes.

It would be of much value, however, if a careful analysis of comparable rentals could be made, and if the bearing on the difference of all the factors affecting it could be determined.

Some of these factors are as follows:

1. Differences in standards
 - a. Different standards of convenience in house design and plumbing
 - b. The adoption of the row, instead of the detached house, as the construction unit
2. Differences in return on capital
 - a. Low rates of interest on government loans
 - b. Lower rates acceptable to private capital in England
3. Differences in cost of administration
4. Differences in cost of construction
 - a. Economies due to engineering planning
 - b. Differences in cost of materials and labor
 - c. Differences due to climate
 - d. Differences due to engineering practice

Too little importance is ordinarily attached to economy in planning estate development. At Harborne the cost of the land was £300 per acre, and the cost of development £350 per acre. When it is considered that the site value of the smallest house at

Harborne is £50, over half of which is cost of development, and that the cost of such a house is £120, the importance of economy in development is apparent. The cost of development at Forest Hills Gardens, New York, was \$2,750 per acre, a smaller proportion of the total cost than would have been the case had the land cost less than \$6,000 per acre.

In this connection, the more careful preliminary planning characteristic of the English developments and of Forest Hills Gardens, as compared with many American developments, is significant. In selecting a site for Letchworth, two of the six conditions set up as essentials by the directors of First Garden City, Ltd., were as follows:

That the estate should be capable of an economical drainage system.

That a complete and satisfactory water-supply should be available.

Reports on these features were submitted *before* the land was purchased, and thus, from the beginning, economical construction was made a controlling factor in selection and development. Moreover, the general association (as in the case of Letchworth) of engineers with architects in estate development, and the training and experience of many English architects in municipal engineering, are in marked contrast to some American cases in which the engineer has been required to find a water-supply and design a drainage system for a town located and laid out with entire disregard of these important considerations.

But not all differences in construction costs are due to causes so susceptible of correction. The generally lower wage scale of Great Britain decreases substantially the labor cost of all construction work, and many materials, in the cost of which labor is an important element, bring a relatively lower price. Thus in 1914 the standard rate of wages for bricklayers in London was 25 cents per hour; in Pittsburgh it was 70 cents per hour. For helpers the corresponding figures were 17 cents and 27½ cents. The brick used at Hampstead cost

about \$7.50 per thousand, while an equally good brick in Pittsburgh would probably cost at least \$10.50 per thousand.

The distinctly milder climate of England as compared with the northern part of the United States decreases expense in a number of ways. Water pipes may be laid at a less depth than with us. Exposed plumbing is possible and is widely used without very great difficulty from freezing. Interior plumbing may be located in exposed walls, and standards for heating may be less liberal.

Numerous variations in engineering practice affect the cost of development in various ways. The lower standards of con-

venience and the greater care to repair leaks and avoid waste of water in England result in much smaller per capita uses than in America—50 or 60 gallons per person per day in the larger cities, as compared with 200 gallons or more in many cities in the United States. The result is smaller pipe diameters to serve a given number of people, both in water-works and sewerage systems, with corresponding reduction in cost.

Numerous other instances might be cited, but enough has been said to indicate that a large number of complex factors, and not a single simple one, are responsible for the observed difference in rentals.

“Community Stupidity”

In his article on “Community Stupidity,” in the *Journal of the American Institute of Architects* for May, Frederick L. Ackerman discusses two phases of the many complex problems surrounding the building of cities—windows in the walls of buildings erected upon the party line and the width of rear yards.

He affirms that the use of windows in the wall along the party line produces congestion, is the most important factor tending toward the creation of the present inadequate width of yards in the rear, and ultimately reduces the earning power of money invested in realty. The author believes that the majority of structures of a commercial nature are built by promoters, the motives of the operator being the promotion fee and a quick sale. A study of the trend of development, both in districts and blocks, shows, he states, that the first operations in any given district are almost without exception confined to corners and isolated plots within a block, and that it is rare to find one side or even a quarter of a block solidly developed at one time, the tendency being to select alternate plots. The reasons for this are that windows are permitted along the property line, and by building thus upon alternate pieces of property, it is possible—for a time at least—to show an excellent rent roll. It is therefore easy to sell, “for there are buyers of gold bricks still in the world.”

The present legal requirements as regards width of yards at the rear, the author further states, has developed a most uneconomic type of commercial structure, and he believes that the volume of unoccupied space within a block is the most important of all factors bearing upon the economic side of building operations. By establishing a proper adjustment between the volume of the buildings and the unoccupied space at the rear within the block, an adequate return from the investment is made possible and a maximum amount of light and air furnished to every section of the building.

The present revenue from buildings in highly developed areas, he states, even when buildings are calculated as fully occupied, shows an inadequate return upon the investment, the principal factor in this condition being the low return in rents from, and the decreased percentage of occupancy in, the lower rear portions of buildings in such areas.

The author points out that by providing more light for the lower stories in the rear, the earning power of such stories could be increased. This arrangement would naturally reduce the return in rental from the upper floors, but there are many examples, he states, which prove conclusively that, by a proper adjustment of the depth of yard to the number of stories, the total income from the building might not only be held at the

same figure, but in some cases actually increased.

The author therefore suggests that the matter of windows in the walls upon the party line and the width of rear yards be

regulated by law, and he feels that a building law which forces a group to act as would an individual is not a set of restrictions, but simply an ordinance of coöperation.

How New York's Money is Spent

The accompanying reproduction of a circular recently issued by Comptroller Prendergast of New York City, besides containing an itemized account of how every \$100 of tax money collected in New York is spent, indicates the wide range of activities of a modern city.

On the reverse side of the circular is a communication addressed to the taxpayers and signed by the Comptroller, pointing out certain increases in the city's bills for the year and giving the reasons therefor, and stating that as it is the business of the Comptroller to see that the money contributed toward the government of the city is honestly expended, so is it due the taxpayer to know for what objects it is used.

The Comptroller explains that the big item in the city's expense is education, and that the Department of Education spends \$39,-840,349.90 a year, more than one-fifth of the whole cost of running the city. The increase over last year is \$1,636,942.98, which is almost the same amount as that required to carry on the various parts and divisions of the Supreme Court in all five boroughs for the whole of this year.

Other noteworthy increases in the city's bills for the year are \$7,220,863.39 for carrying the city's debt, accounted for in part by war conditions; \$321,223.80 for charities, and \$372,725.73 in the courts, district attorney's offices, etc.

The total amount required to meet the running expenses of the city, including the debt service, is \$192,877,694.08, to which is added \$6,112,092.44 to provide deficiencies in collection of taxes. The latter sum is accounted for almost entirely in personal taxes which have been sworn off or have been proved to be uncollectible. The total budget is \$198,989,786.52. Of that amount \$7,033,-716.82 is composed of county charges—for courts, sheriffs, coroners, court officers, etc.

\$100 IN TAXES AND WHERE IT GOES

FOR EDUCATION:	
The Department of Education.....	\$30.06
College of the City of New York.....	.26
Hunter College.....	.28
Public Libraries.....	.71
	\$32.01
FOR PROTECTING LIFE AND PROPERTY:	
The Police Department.....	8.35
The Fire Department.....	4.79
Lighting the Streets.....	2.42
National Guard.....	.28
Other Matters—High pressure water service for fire.	1.02
Armory Board, etc.....	.16
	\$15.96
FOR HEALTH AND SANITATION:	
The Department of Health.....	1.79
Bellevue and Allied Hospitals.....	.76
Cleaning the Streets.....	4.37
Water Supply.....	1.02
Tenement House Department.....	.37
Bath Houses, etc.....	.41
	\$9.71
FOR JUDICIAL PURPOSES:	
The Courts, Criminal and Civil.....	2.70
Criminal Prosecution (District Attorneys, five Coun- ties).....	.50
Civil Processes (Corporation Counsel).....	.44
Coroners, County Clerks, Registers, Sheriffs, etc.....	1.38
	\$5.02
FOR CHARITIES:	
Department of Public Charities.....	2.08
Charitable Institutions, Private and State.....	2.58
	\$4.66
FOR MAINTAINING CITY PRISONS, PENITENTIARIES, ETC.:	
Department of Correction.....	\$.00
FOR PUBLIC RECREATION:	
Parks, Parkways and Drives.....	1.14
Museums, Zoological Gardens, etc.....	.61
	\$1.75
FOR ADMINISTERING CITY GOVERNMENT, GENERAL:	
Financial (Department of Finance).....	.78
Department of Taxes and Assessments.....	.21
Board of Estimate and Apportionment.....	.22
Civil Service Commission.....	.11
Commissioners of Accounts.....	.14
Department of Licenses, Bureau of Weights and Measures, etc.....	.19
	\$1.85
FOR BOROUGH PRESIDENTS' OFFICES:	
Maintaining the Streets.....	2.28
Maintaining the Sewers.....	.55
Care of Public Buildings and Offices.....	.63
Administration.....	.07
Building Inspection, etc.....	.42
	\$3.95
FOR DOCKS, FERRIES AND BRIDGES:	
Department of Docks and Ferries.....	1.01
Department of Bridges.....	.41
	\$1.42
FOR CONDUCTING ELECTIONS.....	
	\$.68
FOR PRINTING AND ADVERTISING.....	
	\$.50
FOR PENSIONS, ETC.:	
Police Pension Fund.....	.75
Relief Funds, etc.....	.01
	\$.76
FOR TAXES AND RENTS.....	
	\$.50
FOR CITY LEGISLATURE:	
Board of Aldermen and City Clerk.....	\$.16
*FOR THE CITY DEBT:	
Interest on City Debt.....	22.00
Redemption of City Debt.....	5.18
Sinking Fund Installments, payable 1915.....	3.84
	\$31.02
	\$100.00

*These items represent money spent heretofore for the benefit of every operating division of the city government.

The Total Cost of Running the City is \$192,877,694.08

"Passing-Through" Parks

By George Burnap

Landscape Architect of Public Buildings and Grounds, Washington, D. C.

EDITOR'S NOTE.—*This is the second installment from Mr. Burnap's forthcoming book on Park Design. The author in analysis places all parks in three general groups—"Passing-Through," "Neighborhood" and "Recreation" Parks—and demonstrates that the design of each depends upon an interpretation of its individual function.*

The next installment will be "Architecture in Parks."

PASSING-THROUGH parks are considered to embrace those most limited in size. They comprise the park portions of civic centers, "down-town" squares and open spaces, the park areas located at points of street divergence or termination, and the large number of irregular left-over areas which might be termed "odds-and-ends" in civic development. Many of the parks falling in this group are so small as to permit little park treatment other than for the quick glimpsing of those passing through or by them; but, for that very reason, their design and composition should be such that the quick impression given may be a forceful and expressive one.

The term "passing-through" has been elected as most designative of the character of the parks enumerated under that heading. In the early morning until the hour when most business offices commence work, the passing of human beings through the public parks located between their homes and the business districts suggests nothing so much as the express service in the subways. A continuous stream of humanity with set faces and eyes straight ahead, now in congested formation, now in open file, passes in unbroken undeviating lines across the parks in several directions, the different cross lines interweaving and dovetailing in a truly remarkable fashion. Any landscape development in the parks for the attention or enjoyment of these rapidly moving throngs is superfluous; any park design that shall retard their flood and ebb tide will be ill received. Such parks must be designed for absolute accommodation and convenience of traffic, with all other considerations secondary.

There may be permitted, however, in the development of these parks a certain amount of civic beautification which will

not interfere with lines of passage, and yet proffer enjoyment and recreation for the eye during the middle of the day when the passers there retard their pace to some extent. Even the most meager of park treatment will seem like a green oasis in the midst of city buildings, and incidentally offer agreeable contrast and attractive setting for the abutting architecture.

Type of Design Recommended

The design of such parks had better be very formal and regular, being thereby more in accordance with the preponderance of architectural forms surrounding them. There should be avoided, however, undue recognition of any especial one of the abutting buildings, lest the area become transformed into foreground or forecourt to the building, and its character as a park be lost. The lines of the plan should be kept very restrained, the ensemble such as may be comprehended at a glance, that being the approximate attention it may expect to receive. Intricate designs will confuse the eye without carrying conviction.

In Italian parks of this sort, frequently the entire areas are disposed in gravel to facilitate circulation in any direction, the design being completed by a formal furnishing of trees and seats with statue or fountain at the center. Such an arrangement reads clearly and serves its civic purpose admirably. In America, however, it would probably be considered too bald a treatment. The French idea of extensive open plazas puts too much "air" into the plan, as an architect would express it, and tends to eliminate too great proportion of park area.

The design of passing-through parks should aim for maximum accommodation by means of walks and gravel spaces without losing, however, their identity as parks.



"Passing-through" parks must be designed for accommodation and convenience of traffic, with other conditions secondary

MILITARY PARK, NEWARK, N. J.

Direct cross lines, well-proportioned spaces and auxiliary ornamentation is the order of design recommended.

Character of Decorative Features

The decorative features of such parks had best be kept architectural, the embellishments taking the form of fountains, statues or urns. The design of these features when placed within the park should be foursquare in so far as possible, for they will be viewed from all directions. Exhedra types or features with architectural background should be placed on the edge of the park and *facing out*, for parks of this variety should be considered in their street aspect. Facing in, such would-be embellishment becomes unintelligible—disfiguring in that respect; and even when placed within the park, interrupts the cross views without explanation except for a 45-degree segment. For this same general reason fountains are preferable to statues for the embellishment of passing-through parks, as permitting inspection from all sides.

Water display should be dominating and forceful, suggesting the energy and action of the environment. Idle pools or lily basins appear incongruous in such a setting; and naturalistic water treatments, as the cascade in the Public Square at Cleveland, are absurdly misplaced in such location. The intermittently playing fountain in Madison Square Park in New York, which keeps up a constantly rising and falling jet of water, has perhaps a somewhat neurotic appearance inconsonant with the idea of park repose, but in rare keeping with the high-tension, alternating current of humanity constantly passing through the park where it is located. The effect of the five vertical jets in the circular basin ornamenting the south portion of the Circus in Detroit, replacing the iron disfigurement formerly there, is forceful without being spectacular. One also recalls as a particularly adequate fountain for its position in a passing-through park the symbolic Norrenbrunnen, in the Karlsplatz at Munich. Fountains in such location need not exhibit the



Park of an inner square designed to recognize "passing-through" lines of the city
KÖNIGLICHER ZWINGER, DRESDEN

conspicuous display of water essential to those holding focal positions in a city plan, but they should be next of kin in character and force of water treatment.

Architectural Planting Design

In the planting of passing-through parks, the fundamental purpose of distributing light and air in the congested district of the city should be recognized. There should not be such density of shade as to give an effect of somberness during the day or to interfere with adequate illumination of the park at night. The planting should not be such as to enclose the park, which arrangement would interrupt air currents and—a matter of great moment—would give the park the appearance of isolation, an attribute of a neighborhood or rest park. Parks completely surrounded by high buildings might be styled civic air wells, and in that sense the landscape planting of such parks should not be crowded so as to exclude or to disturb the free circulation of air.

The planting of this style of park should always be kept distinctly subordinate to the architectural plan and to the architecture of the adjacent buildings. It should aspire to a certain regularity and formal character. Rural scenery injected into congested business districts always seems out of place and ill at ease; if by rare chance it appears to be prosperous and thriving, there is a cocky braggadocio about it as though it were saying, "Well, here I am, what do you make of it?"—like the oak tree in the masonry wall at Windsor Castle.

A point of park design rarely considered is that planting should be studied in regard to its vertical aspect, to provide such elevation as may bring it in scale and character with the adjoining architecture. There should be a regularity of skyline, with avoidance of snaggle-toothed picturesqueness. Uvedale Price points out that irritation or stimulus is necessary to the picturesque: in the act of speaking, for example, a smooth and even tone of voice indicates calm and repose, and broken, irregular accents, irri-



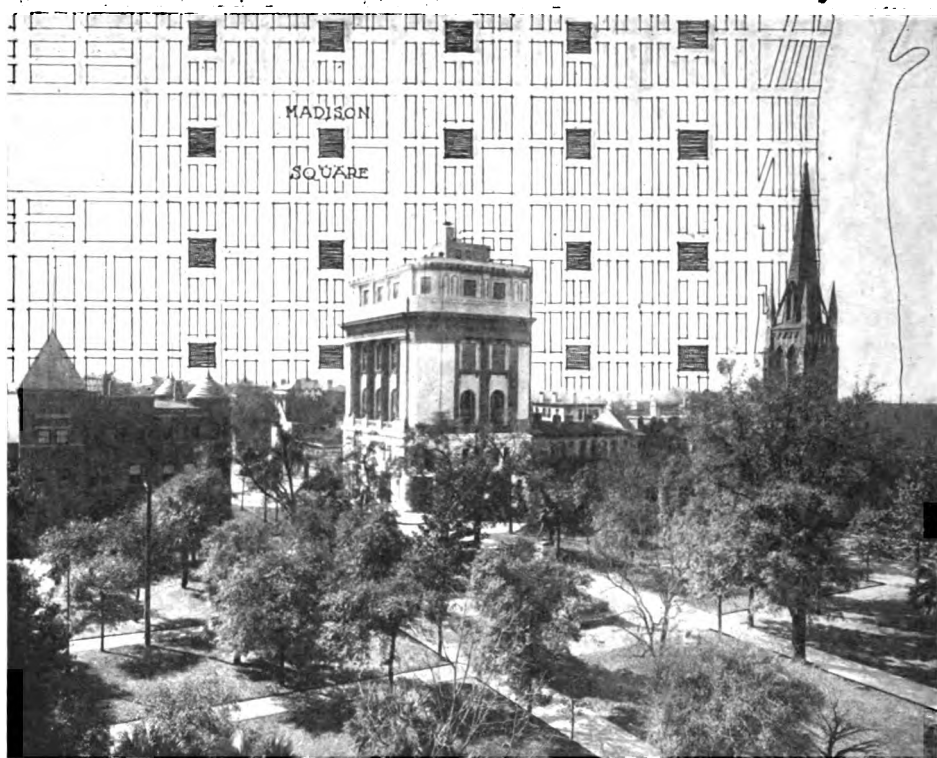
The artificial spring and twin seat in a recently developed "left-over" area in Washington. The "passing-through" lines in this park have been reduced to a minimum expression

SMALL TRIANGLE, WASHINGTON, D. C.

tation; if buildings were to be covered with sharp, projecting ornaments, the eye would be harassed and distracted. Thus, jagged park planting means irritation. There is already sufficient to irritate the eye in the average city prospect without the introduction of a new element. With rare exceptions, an even skyline composed of trees of regular contour arranged for certain formality of effect in relation to the building will best express park and civic relationship in respect to this style of park.

The general park planting should consist primarily of tree growth and turf—if any means is ever discovered of getting grass to grow under city conditions of atmosphere and shade. There should be little or no promiscuous shrubbery. Such material, if included, should be selected for uniformity of height and texture and confined to distinct beds almost in the nature of flowers. The planting must be so arranged as to give strong contrast of light and shade, and so

disposed that to the greatest degree possible the shadows will fall in line value and not be broken up into a confusion of unrelated shadow masses. Properly availed of, foliage shadows in formal park design can be made to render as dependable service as in architectural composition. A row of Norway maples, for example, will give as solid a line of shadow as an architect may obtain in his heaviest overhang of cornice, and such foliage shadow lines will emphasize or disrupt the character of the park plan. Shrubs in like sense will clarify or confuse a plan and, if not to be confined to formal arrangement, as so often seen in German examples, should be omitted from passing-through parks. As confusing the plan, interrupting the prospect, and preventing a clear understanding of the park and civic relationship, this point that shrubs be omitted from passing-through parks is earnestly recommended.



Savannah, the city of "passing-through" parks, excels in their treatment. Main walks in cement, cross walks in brick, statue at center, without congestion of seats or obstruction of shrubs—their appearance is a credit to Mr. Daffin, the commissioner in charge

MADISON SQUARE, SAVANNAH, GA.

Relation of Floral Display to Plan

Floral displays in parks of this class should be very bold and positive in character, disposed in beds strongly related and controlled by the lines of the park design, and as large as the spaces may permit—although, of course, not of such size as to appear heroic. The form and extent of flower beds should be controlled by design and scale, not by precedent or instruction. A large number of insignificant, unrelated flower beds are a detriment rather than a decoration to a park. The floral displays should be composed of strong-growing plants; the sort that do not appear to need constant pampering, but rather the kind that will be able to withstand the buffets of the city, the varieties that represent the survival of the fittest. Also plants which give both striking and elementary color display when in bloom are preferable. There need not be fear of garishness or crudeness

in this aspect, for the constantly settling dust of the city soon tones down what at first might appear untoward brightness. No objection is ever heard in the spring because of the clear sap-green brilliancy of the new leaves of trees in such parks, and the fall days are doubly melancholy because by the time of their arrival the leaves of the trees have become so thickly coated with grime that the festive fall colorings are indiscernible, even if the trees have sufficient vitality to retain their leaves until the coming of frost. Great beds of purple-leaved cannas with edging of pennisetum, bright displays of coleus or sturdy red geraniums with edging of centaurea, seem best fitted for occupying positions of this sort.

Choice combinations of finer blooming things appear out of place in these parks, and unequal to the position assigned them. Delicate shades in flower blooms appear gardenesque rather than civic in color, and for



A "passing-through" park on the border of a business district forced by lack of other civic provision to serve simultaneously as a neighborhood park. The seats shown along the cross walks, with their accompaniment of baby carriages and go-carts, resulted in congestion of traffic, unrelieved until the recent addition of the supplementary circular walk to which all seats have been removed. A recognition of the dual character of this park immediately suggested the remedy

DUPONT CIRCLE, WASHINGTON

that reason should not be used in parks of this type. The spring display of pale hyacinths and English daisies in some of the down-town parks in New York City, could well be supplanted by the darker, more intense colored hyacinths known as King of the Blues, accompanied if desired by crocus of the same name. The double-flowering pink and white tulip, Murillo variety, beautiful in itself for both mass display and cutting, was found to be inadequate and out of character when planted in a focal point park in Washington. Tulips of sturdier bloom and better color for spring display in such parks are the scarlet and yellow varieties, Belle Alliance and Yellow Prince. The general subject of floral display in parks is discussed more fully in a later chapter.

Seat Accommodation

In strictly passing-through parks there should be few, if any, benches, for their presence tends to clog the walks and permit loitering. If there are encircling or secondary walks not used for through passage, seats may be grouped along them; but the ideal solution is to congregate the benches in "rest" parks slightly off the line of congested pedestrian passage. This is an instance, however, where there must be a certain amount of give and take; and while from the analytical standpoint few or no seats should be placed in such parks for the reasons stated, yet if there are not proper parks where seats may be located, the existing parks must serve double duty in this respect. In densely populated cities there may be so great demand for seating accom-

modations that every bench provided will be kept continuously occupied, as in Franklin Park, Philadelphia. In such case the ideal must give way to the exigency of the moment—even if, as in that instance, it means a continuous line of seats on each side of every walk. The designer, however, may console himself that it is not a corruption of principle in that case, but a *sacrifice of park efficiency to conceal park deficiency*. It has occurred in this connection to suggest that in congested public parks where large seating capacity as well as pedestrian accommodation must be provided, certain of the spaces between the walks might well be given up to an orderly arrangement of seats. Such close grouping is very frequently observed in the iron chairs which are placed out for hire in European parks; their appearance is not deleterious to the park, and the idea of sacrificing beauty of greensward to accommodation of needed seats is not discordant with the ethics of park design. If considered offensive by some, it will serve as incentive to promote the acquisition of requisite park areas for rest parks in down-town localities.*

"Passing-Around" Parks

The park areas at street terminations and the circular areas developed at street intersections in the radial system, come more under the heading of "passing-around" than "passing-through" parks. As an example of the close similarity between the two, there may be cited Thomas Circle in Washington and Karolinen Platz in Munich, of approximately the same size and similar location, the one with a statue, the other with an obelisk at the center, the main difference being that in Washington the pedestrians pass around the Circle and in Munich walks are provided in four directions for their passing through. Passing-around and passing-through parks must be considered much the same in character of display allowed, the former, however, permitting greater display than the latter because of greater focal interest.

When these parks come in a location where street views focus upon them, they are then said to have focal or cynosure value, and in that case should have especial features of civic interest. It usually hap-

pens that such focal parks are immediately commandeered for statues. This is fortunately one of the best purposes to which they may be put, and thereby they render valuable service to the city plan. Such focal points can be utilized equally well, however, by fountains or architectural features which will contribute beauty as well as distinction to the street view. Parks of this variety, when given architectural motifs, should be kept free from planting or floral display, except as such embellishment shall contribute to the setting of the statue or fountain. Auxiliary planting must never interfere or compete with the focal motif.

Left-Over Areas

The large number of parks which have been termed odds-and-ends in city development, the left-over or cut-off pieces of land often found at street convergings, are usually so limited in area as to offer small opportunity for walks, seats or other development.

The most that can be done with these parks is to give them a purely decorative character, providing them with some simple motive of interest, such as an urn or flower bed or small fountain, keeping the treatment restrained and never so spectacular as to call undue attention to the design. The planting must always serve purely as setting and background for the motif of the park and be kept subdued and secondary unless it is the only embellishment of the park, in which case it may take a positive character. Planting in a small reservation of this kind should never be of the sort to insistently demand recognition.

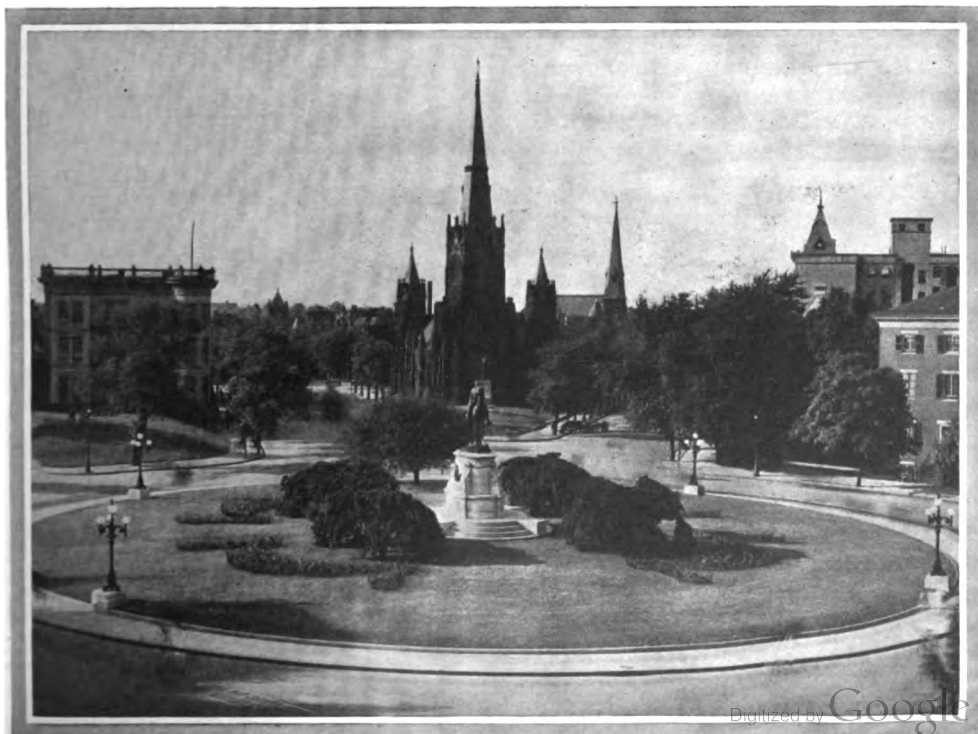
As a general admonition, passing-through parks should not be overloaded with ornamentation. Too profuse display or undue elaborateness is derogatory and in poor taste. The park may be "rich but not gaudy," and its design should express its intent and satisfy its purpose. Although conformity to environment may appear to threaten individuality of the park, and adherence to rule may appear to reduce all design to standardization, the result in each case will disprove such sophistry, for passing-through parks, perforce, are absolutely reflective of the governing conditions—and in civic and park design the governing conditions of no two problems are ever found to be identical.

* See chapter on "Disposition of Seats in Parks," in the forthcoming book.



Two parks of approximately the same size and of similar location: the one developed as a "passing-through," the other as a "passing-around" park

**KAROLINENPLATZ, MUNICH, GERMANY
THOMAS CIRCLE, WASHINGTON, D. C.**



An Industrial Exhibit in a Municipal Museum

By John Cotton Dana

Secretary, The Newark Museum Association, Newark, N. J.

TO show in bird's-eye view the pottery and brick industries of New Jersey, which in the single year of 1913 turned raw clays into products valued at \$19,705,378, the Newark Museum Association recently held for six weeks a New Jersey Clay Products Industrial Exhibition. This exhibition was the first of its kind to be held in this country by a public, muni-

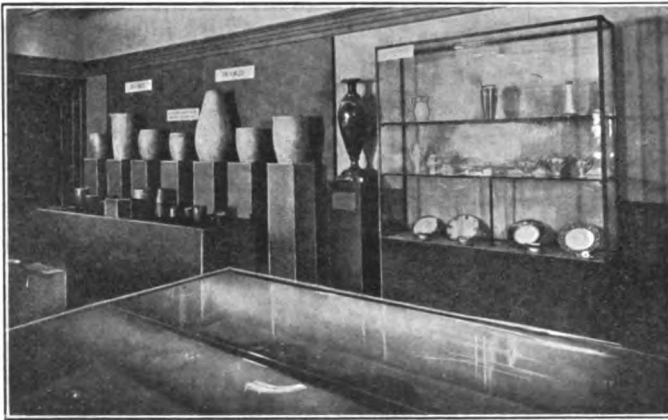
cipally-supported museum devoted to art, science and industry.

An exhibition of an industrial nature usually implies great expenditures of doubtful advertising value, for space and exhibits at huge national and international fairs. Manufacturers have come to balk at the very word. The Newark Museum Association is housed at present with the Newark

Free Public Library and has a limited space for display—a limitation, however, which proved a distinct advantage in dealing with an intensive, local, one-industry exhibit.

Manufacturers in all branches of the industry, makers of chinaware and porcelains, of decorative pottery, of sanitary ware and electrical ware, of brick and terra cotta, were invited to show their products and to cooperate in making an exhibit which should show at a glance what is really meant by the mere statistical statement that New Jersey stands second among all the states in her clay products output. As a result, forty-two firms sent carefully selected exhibits.

To this frankly commercial display the Museum added 150 pieces of pottery made in New Jersey prior to 1876, gathered through the cooperation of the women's clubs of the state; a series of eight flat cases of carefully labeled material illustrating the making of pottery and showing materials, casting



SECTION OF THE EXHIBITION DEVOTED TO REFRACTORY CLAYS

This display included crucibles; fire brick for locomotive boilers, for furnaces, grates and ovens; parts of electrical and gas fixtures and gas logs



THE POTTER AT WORK

Mr. Enoch G. Bourne, of the Trenton School of Industrial Art, held daily demonstrations of the art of making pottery

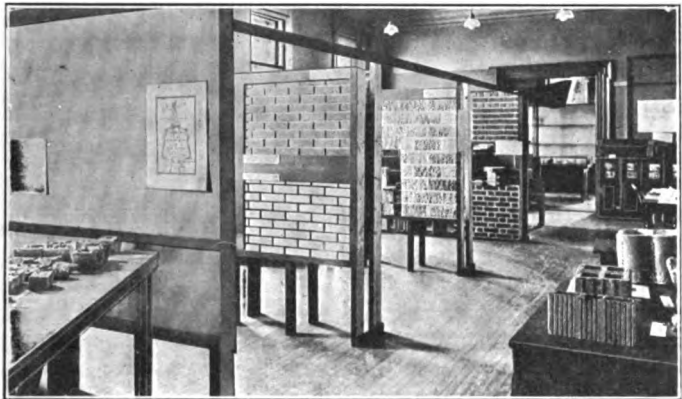
process, glazing, firing, glazes, methods of making, kinds, and how decorated; an exhibit of clays from the New Jersey Geological Survey; collections showing the experimental and practical work done by students in the Department of Ceramics at Rutgers College and at the School of Industrial Art in Trenton; exhibits of clay work from the public schools of the state; three cases containing small articles of every-day use made wholly or partly of clay; an exhibit illustrating the use of clay in the filtration of oil, and collections of books on the subject of ceramics and the clay industries. A catalog in two sections with full notes was compiled. Careful attention was given to every detail of installation and labeling. The regular exhibition cases of plate glass and metal were used wherever possible. The result proved clearly how art and industry may go hand in hand.

To the completed exhibit was added a potter, who for three hours every afternoon, with molds and wheel and small kiln, made pottery for all to see, and explained methods as he worked.

The public response has justified the experiment. The attendance, 25,000 visitors during the six weeks, included manufacturers and builders throughout the state and from New York City, private individuals interested in tiles and fire-proofing materials, men interested in South American trade, art potters, and teachers of ceramics and china decorating. Women's clubs, groups of saleswomen from the department stores, and classes of school children were taken through the exhibit by the Museum Instructor.

We believe that Newark has shown the value of the specialized exhibit, covering a given industry and frankly commercial as well as scientific, industrial and artistic in character. We believe that we have also demonstrated how inexpensively museums, cities, or groups of manufacturers can get up these exhibits. The World's Fair aggregations, where architects, illuminators and side show artists are very prominent and the mere manufacturer is often quite neglected by visitors, do not have the dignity and educational value, nor do they give the rational and helpful publicity which a man to-day demands in return for his money and effort.

Germany, with her undisputed commer-



ROOM IN WHICH BRICK, HOLLOW TILE, DRAIN-TILE, FIRE-PROOFING AND CONDUITS WERE DISPLAYED

The brick was laid in panels illustrating various designs and mortar binders



SECTION OF THE EXHIBITION DEVOTED TO WALL AND FLOOR TILE

Including the exhibits of seven manufacturers

cial wisdom and thoroughness, has appreciated the value of the small, intensive exhibition of one industry.

We believe that under modern advertising conditions it would not take much work of this kind to link the name of Trenton, for instance, with the idea of chinaware and porcelains in the minds of both the wholesale and retail buying and the reading public as thoroughly as Limoges has become linked with the same idea. And the same thing would be true of terra cotta and the South and Perth Amboy region. Such exhibits should become valuable adjuncts to the "Buy in America" campaign.

Moreover, we are confident it is worth while for any state to educate her people to an understanding and appreciation of the

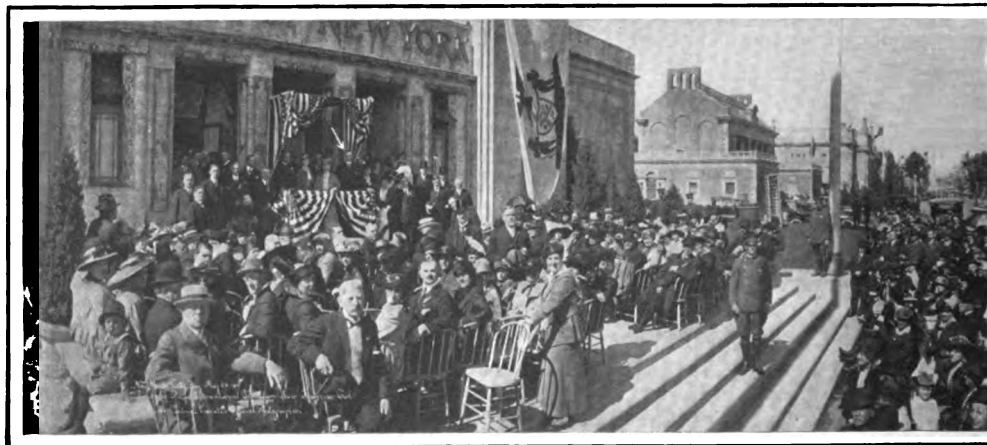
state's products. If the people of the state—and we have in mind the young citizen and the citizen-to-be as well as the present potential purchasers—were to gain through such exhibits a clear knowledge and a lively impression of the wide range and the great importance of leading local industries, these industries would profit thereby in many ways. Managers, owners, artists, designers, foremen and laborers, are all stimulated and aided by that sympathy and goodwill of their fellow citizens, old and young, which come from knowledge and appreciation of what they are accomplishing and trying to accomplish. We believe this exhibit has done much to extend the knowledge and appreciation of New Jersey's clay products' industries.

Dedication of the New York City Building at the Panama-Pacific International Exposition

Thousands of persons turned out to welcome the Honorable John Purroy Mitchel, Mayor of New York, at the dedication of the New York City Building at the Panama-Pacific International Exposition on May 26. This general panorama shows Mayor Mitchel and Mrs. Mitchel, together with Mayor James Rolph, Jr., of San Francisco, and Mrs. Rolph in the speakers' stand at the dedication ceremonies. Near the stand and within the corridor are members of

Mayor Mitchel's party and of the New York City Exposition Commission. Members of the New York Society of California and Exposition directors and their wives attended in force.

This photograph gives an admirable perspective of one of the most interesting sections of the Exposition. On the left is the New York City Building; next, to the right, is the Pennsylvania Building, reproducing in part the famous Independence Hall in



NEW YORK DAY AT THE
The white arrow

Philadelphia. It is in this building that the Liberty Bell, which leaves Philadelphia on July 5 and reaches San Francisco on the evening of July 16, will be on exhibition. Still further to the right, partly divided by the pole on the steps of the New York City Building, is the imposing New York State Building, erected at a cost of \$300,000, and more lavish in its interior finishings than many state capitols. In the center of the photograph is seen the Avenue of Commonwealths, a broad boulevard which parallels the south shore of San Francisco Bay and extends almost from the Golden Gate to the United States Transport docks, a distance of more than two miles. Next, to the right, with the face of a great Dutch clock in its domed tower, is the Netherlands Pavilion, while the structure still further to the right, in French Renaissance architecture and surmounted by a dome that recalls a bishop's mitre, is the Palace of Argentine, a superb structure, lavishly ornamented within, with a huge ball room, floors in hardwood from the Argentine, rich mural paintings and many illuminated dioramic scenes.

Next, to the right, above the light standard in the foreground, is seen the dome of the Palace of Fine Arts. A portion of the Turkish Pavilion, built after the mosque of the Sultan Ahmed I, comes next, and a spire rising from the eight structures in the Fourteenth and Fifteenth Century architecture of the Italian Renaissance comprising the Italian city, follows. The last struc-

ture on the right is a portion of a reproduction of the Forbidden City of Peking, erected by the Chinese Government.

Among all the structures shown in the photograph, none creates greater interest than that erected by the city of New York. The remarkable display of its municipal progress made by the city of Greater New York is proving an attraction to thousands of Exposition visitors.

♦ ♦

An Educational Lunch Room

The Department of Health of New York recently opened an educational lunch room for its employees at 139 Centre Street, Manhattan. While the primary object of the enterprise is to provide a wholesome lunch at practically cost price, advantage has been taken of this opportunity to promote a knowledge of food values among the patrons. The bill of fare, besides giving the name and price of the various dishes, also gives information concerning the total number of calories and the amount of protein in each dish. The back page of the bill of fare contains simple statements of important facts concerning diets, and gives specimen luncheon menus supplying a balanced ration yielding about 1,000 calories and approximately 30 grammes of protein.

The inauguration of the lunch room on May 10 was honored by the presence of the Acting Mayor, the President and the Secretary of the Borough of Manhattan, and other distinguished guests.



PANAMA-PACIFIC INTERNATIONAL EXPOSITION
indicates Mayor Mitchel

City-Planning Restrictions on Private Property

Second Instalment: Public Utilities—Building Regulation—Structural Requirements—
Regulations of Bulk—Districting—Unity in Planning—Effect of
Planning on Land Values

By Frank Backus Williams

Public Utilities

HITHERTO we have considered exclusively city planning limitations upon real estate and other tangible property. The state is sovereign over all property, including that which is intangible. There is one class of property of the intangible sort which greatly affects city construction and the city plan—the franchises of public service corporations. These franchises are property and belong to the corporations. The stock in these corporations is property belonging to the stockholder. The value of the stock is dependent upon the value and earning power of the franchises. Because of their public importance, the public has special need and special power to control these franchises and the actions of the corporations holding them.

Transportation is the most important single influence on the city plan. It, more than any other, makes and changes the character of streets and districts, and determines the distribution of population, bringing, by its presence and efficiency, distant parts of the city, for all practical purposes, near the center, or, by its lack and inefficiency, keeping nearby parts in effect at a distance from that center. Not only routes, amount, speed and comfort of service, but rates of fare, make the virtual city plan. A very small proportion of the population of a city can live beyond the range of a five-cent fare. Expensive subways are possible only where there are multiple dwellings, and soon cause the private house along their route to be replaced by the tenement. In these and countless ways which are well recognized by city planners and transport experts, transportation builds the city. If uncontrolled, the planning of this construction is done by many irresponsible, conflicting agencies in their own interest. If the public interest is to prevail, the public must regulate and control these agencies.

The public exercises this control in several ways: by regulating these agencies as public utilities; by granting or withholding from them rights in the public streets; by granting or withholding special legislative privileges; by regulating them as corporations; and finally, by itself competing with them or superseding them.

The right and methods of state regulation of public utilities is a complex subject with a long history. The law has always recognized certain occupations as so important to the public that the public had the right to control them. The innkeeper, for instance, must give food and shelter to all at a reasonable price. The common carrier of goods or passengers is also more than an operator for private gain; his occupation is "affected with a public interest."

As a public carrier, the transportation company in a city is not free to earn for its stockholders any dividend it can by charging any fare it is able to collect; it is only entitled to a reasonable return on the money actually invested. Nor is it the judge of what facilities it shall offer. These facilities must in every way be reasonably sufficient. The company and its stockholders are protected, however, by this doctrine of reasonableness, and by constitutional provisions against taking property without compensation; for the making of unreasonable requirements under which the company would not be allowed to earn a fair return is in effect a taking.

Transportation companies must use the public streets, but cannot do so except with public permission. In this way the public may lay out routes and see to it that there is a transportation system according to a proper city plan.

Transportation companies, like all large enterprises, are constantly in need of legislative assistance in the way of new authority. Thus, they may need to take additional property by eminent domain, change their motive power or their routes. The

public may then make these favors conditional on extensions and improvements in service.

Transportation enterprises are forced practically to incorporate. There is no legal prohibition in most cases preventing large undertakings from being privately run. The Adams Express Company is a private partnership. Practically, in most cases, the amount of capital required is too great. Corporations have always been subject to public control much more than individuals.

Finally, the city may itself wholly or partly assume the task of the transportation company. If the road is already built, the city may, under its power of eminent domain, take the franchises and property, real and personal, of the transportation company; either running the road itself, or leasing it under stringent operating conditions; or the city may itself build a competing road: or, if the road is not yet built, the city may itself in the first instance build it, operating it, or leasing it for operation afterwards. Nowadays charters are often granted with the condition that the franchises and roadbed become the property of the public after a given number of years; the rolling stock to be taken, if the public authorities so desire, at a fixed figure or a valuation. Often a right of recapture of the road at a figure or a valuation at the end of a much shorter period is inserted. Similar provisions are made in leases when the public owns the road. In these and many other ways there is a recognition of the power of transportation over city planning and construction, and an effort to secure its advantages and cure its abuses.

Building Regulation

We have so far been discussing matters related to the public features of the city. Important as these features are, their sole purpose is to make private land more useful. We have referred to the influence of the public on the private use. We shall now turn to the direct control, by statute and ordinance, of this private use.

More specifically, our subject now is building regulation. This is not a taking of property but a regulation of it, while leaving it in private ownership, for private use. This is done under what we know

as the police power, for the public good, without the payment of compensation.

Building regulation seems to have existed since the beginning of civilization and building itself. The regulations of the Middle Ages are well known to us. In outline some of them still survive; but mainly for purposes quite other than those that led to their adoption.

In modern German codes, for instance, there is often a height limitation of five stories, a minimum size of court, a space required between buildings. In mediæval times these regulations were passed as precautions against fire; to-day their main purpose is to secure light and air.

Building regulations are of many sorts, passed for many purposes, coöperating, indifferent one to the other, or conflicting. While any mutually exclusive classification of these regulations is impossible, they may be roughly divided into three classes: structural requirements, regulations of bulk, and regulations of use.

Structural Requirements

By structural requirements, as employed here, is meant structural requirements other than those of bulk or use. Structural requirements in this sense may be further divided into regulations to secure stability, and regulations to promote morality, sanitation, or some similar result.

Building regulations laying down certain requirements to guard against flimsy construction, in danger of collapse, or of being readily burned, are very general. Of late years they have become voluminous and detailed. This is partly due to the multitudinous and widely diversified demands made upon the modern architect and builder, and the wealth of materials and processes available to satisfy these demands; partly to the need of setting up definite requirements and standards for use by city officials. This has led at times to the undue curbing of the freedom of the builder and the architect, who in their inventiveness, except for these special requirements, might well have found cheaper and better methods and materials. It is to be feared, also, that special interests have often succeeded, to their own profit, in securing the exclusive adoption of their own materials and processes. Whatever the reason for these detailed requirements, it seems to be

generally admitted that construction in many of our cities has been made unduly expensive by them.

The desire to secure stability, combined with the bureaucratic tendency toward formal uniformity, has led to another unfortunate result. Too much the requirements for all buildings have been made the same. The difference between a theatre, for instance, and a dwelling house, are too obvious to be overlooked. Not so with the differences, hardly less real and important, between the large and the small house. As a result, it is scarcely too much to say that the differences, seen and provided for in the one case, were overlooked, all too much, in the other; so that much the same requirements were made for the cheap house and the dear, the single house and the multiple dwelling. This is not equality, but most unfair discrimination. The small building does not need as thick walls, for instance, as the larger one. The relative expense of the same walls is much greater for the cheaper than for the dearer one. This evil, while it exists in this country, is much greater in Germany.

Structural regulations, passed ostensibly to obtain stability, sometimes have social and economic results quite as important. Thus the requirement that tenement houses in New York City over six stories in height should be fireproof, by greatly increasing the expense of building higher tenement houses, has greatly lessened the number of higher ones to be built. Since the passage of the laws with regard to tenement-house construction in 1902, in the fires that have occurred in these "new law" tenements, there has never been a death due to structural defects. Nevertheless the lessened height of tenements in New York City is excellent. Unfortunately the same result could not, in all probability, have been obtained from reluctant or uninformed legislators by more direct methods.

There are also structural requirements (other than those of bulk or use of buildings, to be dealt with later) whose object is to promote morality, sanitation, and the like. The specifications with regard to plumbing, water supply for every family, and perhaps a separate water closet, are examples of this class of requirements, so common in modern building, housing and tenement house codes and laws.

Regulations of Bulk

The main purpose of regulations limiting the bulk of buildings is to guard against undue concentration in cities. A certain measure of concentration is necessary. The division of labor, upon which modern civilization is so largely dependent, has differentiated the land of the country into urban and rural land. In the rural parts of the country the raw products are produced and extracted; in the city the product is manufactured and exchanged. Manufacture and exchange require, much more than production and extraction, those close and quick contracts which only the intensive use of land can give.

But undue concentration defeats the purpose of concentration; it becomes congestion, clogging movement instead of quickening it. For the first time in history this problem is acute. Cities have always existed, but never before have they been so numerous or so large. Machinery and improved methods in manufacture, the arts and agriculture, have increased the product, lessened the number of people required for production and augmented the number necessary for supervision and exchange.

At the same time our demands upon city life have changed. Streets built for the occupants, and business of moderate structures are lined with much greater buildings; central areas are crowded with the people and affairs of wide new areas, brought near by improved transit.

Nor is this all; the problem is also one of living conditions. In olden days overcrowding, bad air, lack of light and sun were accepted as an inevitable part of city construction; by most people they were not even known to be evils. Under these conditions cities grew. Now, with increased knowledge of cause and effect, we demand light and air in our cities as necessities of life.

To satisfy these requirements we must have space. This, as never before, brings the problem of concentration home to cities the world over.

The usual provisions regulating the bulk of buildings are those limiting height and area. The purpose of height limitations is to prevent a building from intercepting too much light and air from its own lower portions, and from neighboring buildings.

The purpose of area limitations is to secure on each building lot a minimum of open space for the access of light and air to the building and to neighboring buildings; and, if possible, space for outdoor enjoyment. The purpose of both classes of provisions is to prevent undue concentration with relation to streets, public open spaces and public utilities. They apply, of course, only to new buildings; they are not retro-active.

Height is limited sometimes at a fixed maximum, sometimes with relation to the width of the street upon which the building stands.

Area limitations usually either require a percentage of the building lot to be kept open; or prescribe courts and yards of minimum dimensions; or make both classes of requirements. The percentage requirement leaves to the architect greater freedom in the planning of his building. It is more often regarded as sufficient where the required percentage is large, and it is easier to give each room its light and air. The purpose of the prescribed courts and yards is to make sure that each room has this light and air, so far as possible.

Sometimes bulk regulations are framed combining height and area limitations—as, for instance, regulations requiring a larger percentage of open space, or larger minimum courts and yards, the higher a building is built. Evidently, to secure the same access of light and air, there must be more space in connection with a tall than a low building.

Bulk regulations may be the same for all buildings in a given city or district, or vary with the class of building. It is usual in Europe, and not uncommon in this country, to fix a height limit which no building shall exceed. It is also usual, there and here, to recognize that special buildings should be specially regulated as to height; such as factories, where a large number of persons are employed, and tenements, where large numbers live. This variation in regulation is also based on the use to which the building is to be put. Other use regulations are those requiring special exits for theatres, special fire escapes for tenements, etc.

Districting

So far we have treated buildings as if in any given municipality they were the

same for all buildings, or all of the same class. This may be the case. Regulations, however, may differ in different parts of the municipality. Such regulations are called district regulations.

Districting may be by bulk, or by use. By varying the size of buildings in proportion to the lot they occupy, we may obtain degrees of concentration in our districts; by varying the grouping of buildings according to the use for which they are intended, we may give the districts unity and character.

Districting according to bulk developed in Germany, the country where districting originated, as a remedy for congestion. City planners there in the 70's found the centers of population almost hopelessly overcrowded; and saw with alarm that this condition was spreading as cities grew. In the older parts it was impossible, without virtual confiscation, to require new buildings to be much lower or smaller than those already there; for the price of the land had adjusted itself to the development. As practical men, they therefore left the rules in the centers much as they were, and secured the enactment of adequate restrictions for the newer parts of cities. This created districts varying one from the other in the height and area of their buildings. Experience has shown that this is the only way, conservatively and wisely, to prevent the spread of congestion in cities as they grow.

Districting according to use was devised in Germany as a remedy for confusion in cities. Under the first Napoleon, protected districts were established for cities in parts of what is now South Germany. Within these protected districts the construction of buildings for the more offensive, dangerous and unhealthy manufacturing was not permitted. This system spread, and became Prussian and later imperial German law. From this system developed districting according to use, in the many forms and degrees as it exists in Germany to-day.

In the typical German city we find a system combining districting by bulk and districting by use. Let us take Frankfort-on-the-Main as an illustration—a city where the system is comparatively simple.

The old or inner city is the first zone. Here the highest buildings are allowed, and the greatest proportion of the lot may

be covered. Factories are permitted, but are not numerous. The inner city existed long before districting was adopted.

The outer city is divided into an inner, an outer, and a rural zone, in which the permissible height of new buildings and percentage of the lot that they may cover progressively decreases. In each of these zones are residential, industrial and mixed sections. In the residential sections factories are so discouraged as to be practically forbidden. In the industrial sections every industrial facility is furnished; and residences, since 1912, are forbidden. In the mixed sections, situated near the industrial sections, certain less offensive industries are permitted. Some of the remoter parts of the city are reserved for country houses. Through all the zones and districts run the main traffic streets, where shops and minor industries are permitted, and buildings somewhat higher, covering a somewhat greater proportion of their lot, than buildings on other streets in these zones and districts are allowed.

The object of districting is twofold: (1) to discover differences in different parts of cities and adapt regulations to them, where these differences are desirable, or (as is so often the case in the built-up sections) too deeply fixed to be changed; (2), to protect, accentuate, or create character in a district.

All cities have within their limits localities of distinct and different character. New York, for instance, has its financial and office district downtown in the narrowest part of the island of Manhattan. There land is most valuable, buildings tallest and streets narrowest. Quite different in character is Fifth Avenue; different again are the Bronx, Brooklyn, and the remoter parts of Staten Island. These differences are in each locality expressed in the height, density and form of building and in land values. Each is a district of the great city, with conditions and character of its own.

So Boston has its State Street, its Back Bay, its West Roxbury. So Chicago, New Orleans, San Francisco—cities everywhere, even down to those of but a few thousand population—have differences within their boundaries and express them in character of buildings and variations in land value.

Regulation, to be effective, must adapt itself to these differences. If rules were

uniform they would require buildings of the same height on Wall Street, and Staten Island, State Street and West Roxbury, city centers and city suburbs everywhere.

The district system also seeks to preserve desirable differences. The intrusion of a factory into an expensive residential district is a menace to the health and comfort of its inhabitants, and to the value of land in the district. Nor is it only the residences of the wealthy that should be protected. Humbler homes should be kept free from disagreeable and unhealthful smoke and noise.

Districts, too, may often be given a character. In recognizing the importance of natural characteristics, we sometimes forget the importance of acquired ones. A regulation assuring to a district an exclusively residential character is often enough to make it a desirable residential neighborhood.

Districting properly carried out does not interfere with the neighborhood center, but should recognize it, just as greater centers are recognized. Nor need the neighborhood diversities and relationships, less concentrated than at the neighborhood center, be sacrificed. For instance, the main traffic streets in residential districts are, from a business point of view, good locations for the minor industries that must be near the residences but should not be scattered among them; workingmen's residential districts should be near the industrial districts where the men work; and residential and industrial districts in some cases may consist of single streets, adjoining and parallel.

The aim of the districting system is, therefore, to put all land in a city to its highest use, and preserve it for that use until it becomes better suited to some other use. The result of the system should be to increase land values, and prevent fluctuations in them. Experience in Germany shows that this is, in fact, its result.

The districting, or zone, system was first evolved and advocated in the 70's by Baumeister, one of Germany's great theoretical city planners; first applied in 1884, and more fully in 1891, by one of her great city administrators, Dr. Franz Adickes; has stood the test of thirty years, and is to-day the established system in Germany, the country where city administration has reached its highest efficiency.

From Germany, the system has spread to

Switzerland, and the Scandinavian countries. England has borrowed from it somewhat in her planning act of 1909. Canada and the United States, at first perhaps unconsciously, but now deliberately, are beginning to adopt its principles.

The best known instances of districting by bulk in the United States are the height districts in Boston, and in Washington, D. C. Many states in this country and provinces in Canada have authorized districting by use, and a number of their cities have acted under this authority.

Districting in America has usually taken the form of the establishment of residential districts, within which certain industries may not be introduced. Usually industries of these classes, if already in the district, may remain. California, alone, in some instances, has expelled them. There is reason to think that districting under the police power, without compensation, is constitutional in the United States.

An interesting form of districting by use is provided for in the New York state housing law for second-class cities, passed in 1913 (Ch. 774). It authorizes the common council, on petition of two-thirds of the owners affected, to establish residential districts. The unit of area for a district is the lots fronting on one side of a street, between two intersecting streets.

This districting largely by local option is no doubt good as a first step. But such a system does not lend itself to the adoption of any consistent and complete district planning. It is most important, not only that districts should be rightly located themselves, but that they should be located for the advantage of other districts.

The Board of Estimate of New York City has recently obtained authority to divide the city into bulk and use districts, and a commission is now proceeding with the work. The result will be of great interest.

Unity in Planning

One thing more of great importance remains to be said of the planning of the public features, and the controlling of the use of the private land of a city: both must be done as parts of one city plan. The street in width and character, the park in extent, the subway in capacity, must each be fixed with relation to the bulk, and char-

acter, and location of buildings, and number of inhabitants, and vice versa, for common use in one city.

Effect of Planning on Land Values

This completes the long list of city planning restrictions. That they are an advantage to the community as a whole this chapter, perhaps, has already succeeded in proving. But in spite of being imposed upon private property, they serve the interests of that property and indeed are essential to its value.

In the aggregate land value is very largely a community product. This is true of all kinds of land. The fertility of agricultural lands is due to the goodness of God and increased by the industry of the individual owner; but the value of it consists almost entirely in its accessibility and the intelligent, honest government of the community in which it is situated. In Central Africa, and in much of Mexico at present, there is a large quantity of very rich land that would be dear at the price of a very poor song. How much more true is this everywhere of building land values! Even in the United States, with its intelligence, stability and growing density of population, where average front-foot values compare very favorably with average acreage values, the extent of agricultural land vastly exceeds that of building land. Only a small part of the exceptional value of building lots is anywhere due to a God-given harbor or an individually filled, or piled lot; increase in population, a more or less honest government, a more or less intelligent community development, have done the rest.

Very few of us realize the fact that city land development, in all but the exceptional case, is the work of the community. The city lays out the streets, licenses the public service corporations, choosing their locations, decides where the parks and public buildings shall be, and, except where it is left to private interests or chance, determines by districting the character of neighboring buildings. Nothing remains to the average individual but to accept the character that has been given to his land and build accordingly.

The exceptional cases are those of large real estate owners developing virgin territory for high-class suburban residential

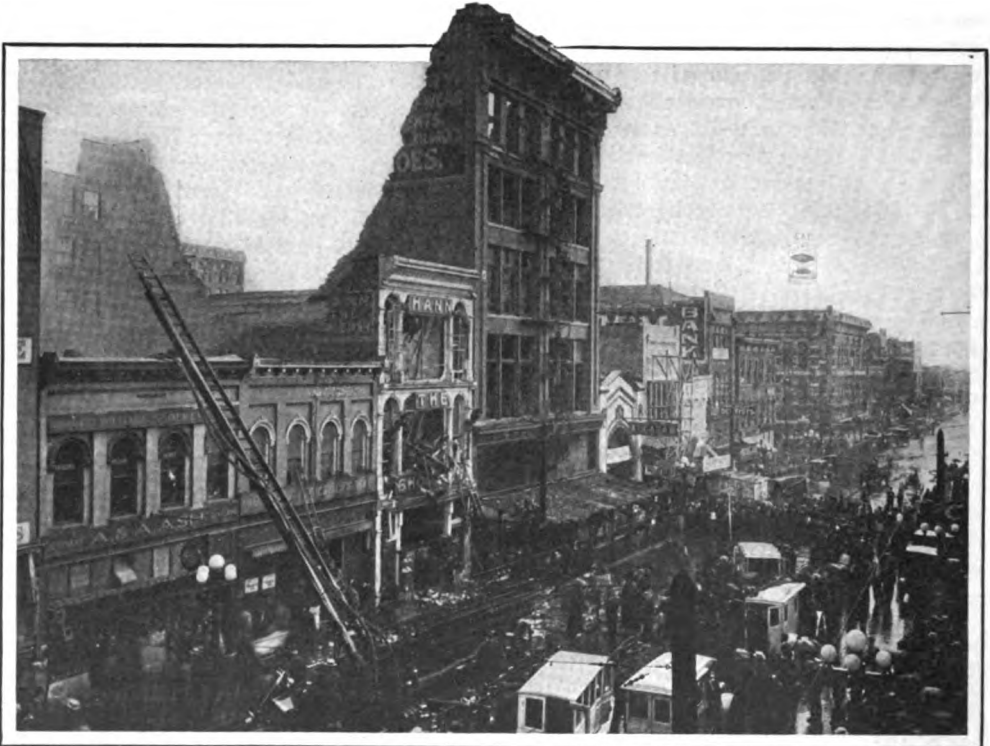
use. They can plan their tract and to some extent fix its character by private restriction in deeds. But this they can do only in America and such other countries as still neglect the duty of making public plans in all such cases. The large individual owner cannot plan the streets and other public features of his tract in the best way and therefore in the way most advantageous to him; for that can only be done by a plan made by the city for the city as a whole. Nor can he fix the character of his tract as the city can by a districting plan for the entire city. How often (to take as an illustration one class of cases out of a great many) lack of proper restriction in sur-

rounding territory injures the restricted tract! Then, too, the restrictions, if for a short term of years, soon run out; and if for a long term or perpetual, in many cases become unsuitable and obsolete. The landowner having exercised his power at the outset, has exhausted it; the city may be given a flexible, continuing power, and is thus very much better fitted for the task.

Increase in land values is an indissoluble part of community development. The landowner, great or small, will find his interest and the general interest one and the same. To help himself he must in common with all citizens throw himself into community life and make it honest and efficient.

EDITOR'S NOTE.—This article, and the instalment which appeared last month, comprise a chapter of a work on city planning soon to be issued by the National Municipal League (D. Appleton & Company, publishers), each chapter of which is to be written by a recognized expert. The author of this chapter is chairman of the City Planning Committee of the City Club of New York, is on the staff of the Commission on Building Districts and Restrictions, and a member of the newly formed Advisory Commission on City Planning of New York City. He has twice been sent to Europe by New York City to investigate and report on building regulation and districting there.

A Picture With a Warning



Courtesy of Leslie's Weekly, Copyrighted.

Nine persons were killed and two stores were almost completely destroyed by the accident shown in this picture. A fire had gutted the large building in December, but the city authorities, not suspecting the danger, had allowed the walls to remain standing. Late in April the citizens were startled by the walls collapsing and crashing through the roofs of adjoining buildings. Some of the dead bodies were not recovered from the debris until the following day.

Keeping the Fireman Fit

THE picked men of the fire service are entitled to every possible means of keeping their fine physical fitness for work. Subjected to irregularity in hours for sleeping and eating, and to great strain through exposure and deeds of daring and endurance, they are also often the victims of lack of exercise. In companies where the work is insufficient to keep the men in their first condition of physical efficiency, some counteracting system is needed to forestall the gaining of surplus weight and girth and to maintain strength.

The Fire Department of New York City has done a country-wide service in preparing a simple system of calisthenics and in making this a compulsory daily exercise. The plan is applicable to fire departments in cities of various sizes, and therein lies the value of giving ample space to its presentation in the pages of *THE AMERICAN CITY*. In his letter to the force, with which the handy little manual of instructions opens, Commissioner Robert Adamson says, in part:

"The drills have been worked out with great care by a committee consisting of Captain Charles E. Field, Mr. Clarence H. Fay, Secretary of the Department; Chief Medical Officer Joseph E. Smith, and Mr. G. Hinman

Barrett, Secretary to Deputy Commissioner Laimbeer. The exercises are the simple 'setting up' exercises such as are used at West Point, in the National Guard, and by many athletic instructors. The best in a number of physical manuals has been adopted and adapted to the use of members of this Department. Fifteen minutes a day are to be devoted to practicing the exercises. The company commanders are expected to see that the exercises are regularly carried out, except when the men are fatigued from fire duty when the exercise hour arrives."

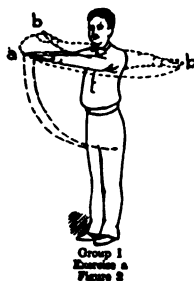
Certain general instructions precede those for the drill:

1. Every movement should be done with vim and enthusiasm—slovenly sliding through the exercises without getting strong, muscular contractions will not produce the desired results.
2. Emphasize all movements which contract the large muscles back of the shoulders. This helps to straighten the spine and deepen the chest.
3. Keep the head erect and set well back during all the movements.
4. The leader of the drill should count the numbers for the movements of the exercises with a strong voice and precision.
5. In counting for the movements it should be remembered that where the body bends from the hips (as in a forward body bend) the rhythm of the count should be somewhat slower.
6. Each exercise will be repeated to 32 counts.

GROUP I. "Position":—Arms hanging freely at sides as in (Fig. 1).

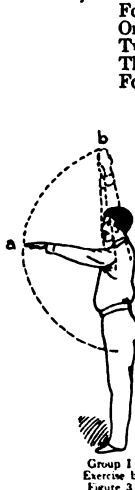


Exercise a. Arms front horizontal, side horizontal, front horizontal and return.

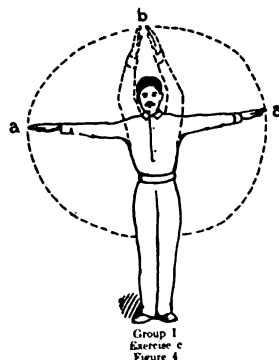


Four counts. (Fig. 2).
One:— Arms front (a).
Two:— Arms side, palms of hands turned up (b).
Three:— Arms front (a).
Four:— Position.

Exercise b. Arms front horizontal, up over head, front horizontal and return.



Four counts. (Fig. 3).
One:— Arms front (a).
Two:— Arms up (b).
Three:— Arms front (a).
Four:— Position.



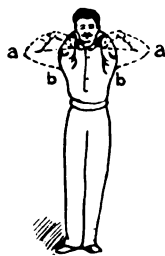
Exercise c. Arms side horizontal, up over head, side horizontal and return.

Four counts. (Fig. 4).
One:— Arms side (a).
Two:— Arms up (b).
Three:— Arms side (a).
Four:— Position.

Exercises for Firemen—Continued

Exercise d. Fingers to shoulders, elbows swung forward, then to side and return.

Four counts. (Fig. 5).
One:— Fingers to shoulders (a).
Two:— Elbows swung forward (b).
Three:— Elbows swung side (a).
Four:— Position.



Group I
Exercise d
Figure 5



Group II
Position
Figure 6

GROUP II. "Position":—
Hands on hips (Fig. 6).

Exercise a. Half squat
Two counts.
One:— Down as in (Fig. 7).
Two:— Position.



Group II
Exercise a
Figure 7

Exercise b. Raising knee.
Two counts.
One:— Raise as in (Fig. 8).
Two:— Position.

Note.—Right and left knees to be raised alternately



Group II
Exercise b
Figure 8

Exercise c. Side toe touch.
Two counts.
One:— Touch toe to floor at side as in (Fig. 9).
Two:— Position.

Note.—Right and left alternately.



Group II
Exercise c
Figure 9

Exercise d. Jump to straddle.
Two counts.
One:— Jump to position in (Fig. 10).
Two:— Position.



Group II
Exercise d
Figure 10

GROUP III. "Position":—Same as for Group II (Fig. 6).

Exercise a. Forward bending.

Two counts.
One:— Forward as in (Fig. 11).
Two:— Position.



Group III
Exercise a
Figure 11



Group III
Exercise b
Figure 12

Exercise b. Side bending.

Two counts.
One:— Bend as in (Fig. 12).
Two:— Position.

Note.—Bend to right and left sides alternately.

Exercise c. Alternate front and side bending

Four counts. (Figs. 11 and 12).
One:— Down as in Exercise (a)
Two:— Position
Three:— Bend as in Exercise (b)
Four:— Position

Note.—Bend to right and left side alternately.

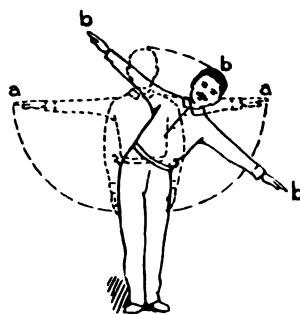
Exercise d. Slapping abdomen.

Slap abdomen vigorously, using both hands.

GROUP IV. "Position":—Same as for Group I (Fig. 1).

Exercise a. Arms side and side bending.
Four counts as in Fig. 13.

One:— Arms to side (a)
Two:— Side bend (b).
Three:— Return to erect position (a).
Four:— Position.
Note.—Bend to the right and left alternately



Group IV
Exercise a
Figure 13



Group IV
Exercise b
Figure 14

Exercise b. Arms over head and side bending.

Four counts as in Fig. 14.
One:— Arms over head (a)
Two:— Side bend (b).
Three:— Return to erect position (a).
Four:— Position.

Note.—Bend to the right and left alternately.

Exercises for Firemen—Continued

Exercise c Hands to shoulders and forward bending.

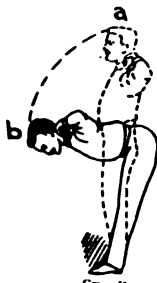
Four counts as in Fig. 15.

One:— Hands to shoulders (a).

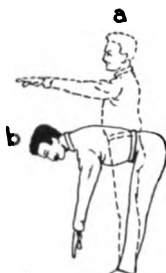
Two:— Forward bend (b).

Three:—Return to erect position (a)

Four:— Position



Group IV
Exercise c
Figure 15



Group IV
Exercise d
Figure 16

Exercise d Arms forward horizontal and forward bending.

Four counts as in Fig. 16.

One:— Arms forward (a)

Two:— Forward bend (b).

Three:—Return to erect position (a)

Four:— Position.

GROUP V. "Position":—Same as Group II (Fig. 6).

Exercise a. Side charge and side body bend.

Four counts as in Fig. 17.

One:— Charge to side (a).

Two:— Bend to same side (b)

Three:—Body upright (a)

Four:— Position.

Note.—Charge and bend right and left alternately



Group V
Exercise a
Figure 17



Group V
Exercise b
Figure 18

Exercise b. Front charge and front body bend.

Four counts as in Fig. 18.

One:— Charge to front (a)

Two:— Bend forward (b).

Three:—Body upright (a)

Four:— Position.

Note.—Charge with right and left foot alternately.

Exercise c Alternate half-squat and front body bend.

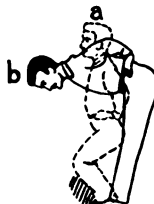
Four counts as in Fig. 19.

Half squat (a).

Two:— Rise to position.

Three:—Front body bend

Four:— Position.



Group V
Exercise c
Figure 19



Group V
Exercise d
Figure 20

Exercise d. Jump to straddle and side bend

Four counts as in Fig. 20.

One:— Jump to straddle (a)

Two:— Bend to side (b).

Three:—Body upright (a)

Four:— Jump to position

Note.—Bend to right, and left alternately.

GROUP VI. "Position":—Same as Group I (Fig. 1).

Exercise a. Side charge, arms side and over head and return to position.

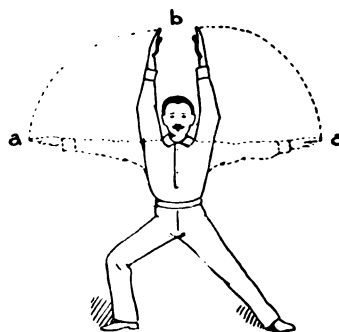
Four counts as in Fig. 21.

One:— Side charge and raise arms at side (a).

Two:— Raise arms over head (b).

Three:—Return arms out to side (a).

Four:— Position.



Group VI
Exercise a
Figure 21

Note.—Charge to right and left sides alternately.

Exercises for Firemen—Continued

Exercise b. Side charge, arms front and side.

Four counts as in Fig. 22.

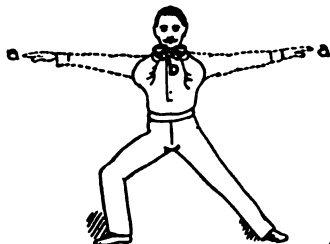
One:— Side charge and raise arms at side (a).

Two:— Swing arm to front horizontal (b).

Three:—Return arms out to side (a).

Four:— Position.

Note.—Charge to right and left sides alternately.

Group VI
Exercise b
Figure 22**Exercise c. Front charge, arms front and over head.**

Four counts as in Fig. 23.

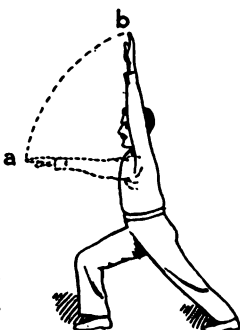
One:—Front charge, arms front horizontal (a).

Two:—Raise arms over head (b).

Three:—Return arms to front horizontal (a).

Four:— Position.

Note.—Charge with right and left foot alternately.

Group VI
Exercise c
Figure 23**Exercise d. Front charge, arms front and side.**

Four counts as in Fig. 24.

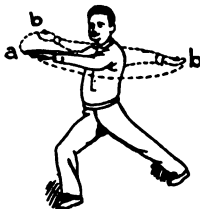
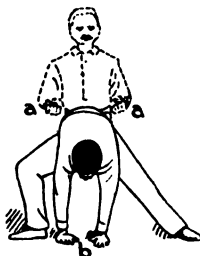
One:— Front charge, arms front horizontal (a).

Two:— Arms swung out to sides.

Three:—Return arms to front.

Four:— Position.

Note.—Charge with right and left foot alternately.

Group VI
Exercise d
Figure 24**GROUP VII. "Position":—Same as Group I (Fig. 1).**Group VII
Exercise a
Figure 25**Exercise a. Side charge—bend forward—hands to floor.**

Four counts as in Fig. 25.

One:— Side charge, arms to thrust (a).

Two:— Bend forward, touch palms of hands to floor (b).

Three:—Body return to upright (a).

Four:— Position.

Note.—Charge to right and left sides alternately

Exercise b. Side charge—arms side and side bend.

Four counts as in Fig. 26.

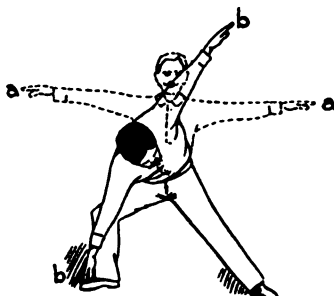
One:— Side charge, arms out at sides (a).

Two:— Bend to same side as charge, touch hand to floor (b).

Three:— Body return to upright (a).

Four:—Position.

Note.— Charge to right and left sides alternately.

Group VII
Exercise b
Figure 26**Exercise c. Front charge, arms over head and front bend.**

Four counts as in Fig. 27.

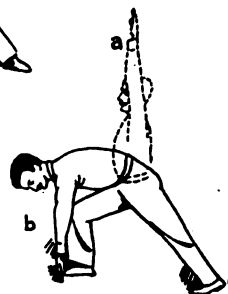
One:—Charge to front, raise arms over head (a).

Two:— Bend to front and bring fingers to touch floor (b).

Three:—Body return to upright (a).

Four:— Position.

Note.—Charge with right and left feet alternately.

Group VII
Exercise c
Figure 27**Exercise d. Forward charge, hands behind head and forward bend.**

Four counts as in Fig. 28.

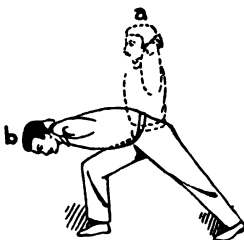
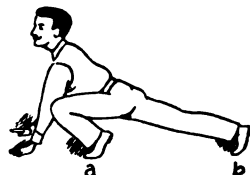
One:— Charge forward, hands behind head (a).

Two:— Bend forward (b).

Three:—Body return to upright (a).

Four:— Position.

Note.—Charge with right and left foot alternately.

Group VII
Exercise d
Figure 28Group VIII
Exercise a
Figure 29**GROUP VIII. "Position":—Same as in Group I (Fig. 1).****Exercise a.**

Four counts as in Fig. 29.

One:— Squat and touch hands to floor (a).

Two:— Extend one leg to rear as in (b).

Three:—Return leg to same as (a).

Four:— Recover to standing position.

Note.—Extend right and left leg alternately.

Exercises for Firemen—Concluded

Exercise b. Side charge, arms side horizontal, touch opposite foot.

Four counts as in Fig. 30.

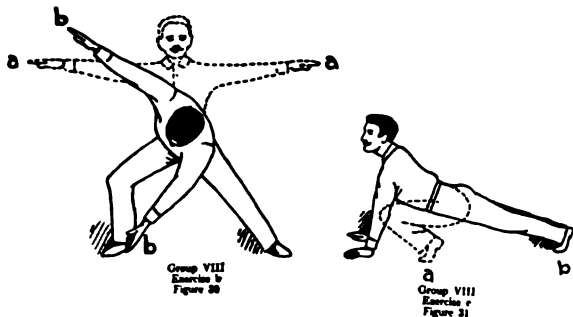
One:— Charge to side, extend arms side horizontally (a).

Two:— Touch charging foot with opposite hand (b).

Three:—Body return to upright (a).

Four:— Position.

Note.—Charge with right and left foot alternately.



Exercise c.

Four counts as in Fig. 31.

One:— Squat as indicated by dotted line (a).

Extend both legs to rear as shown in (b).

Three:—Return to a.

Four:— Recover to standing position.

Exercise d. Side charge, arms in thrust; twist to side and extend both arms.

Four counts as in Fig. 32.

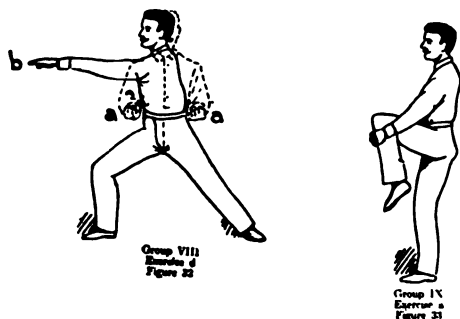
One:— Side charge, arms in thrust (a).

Two:— Twist body to charging side, extend both arms (b).

Three:— Return to front face (a).

Four:— Position.

Note.—Charge to right and left alternately.



GROUP IX. "Position":—Same as Group I (Fig. 1).

Exercise a. Clasping knee.

Two counts as in Fig. 33.

One:— Raise one knee and clasp with both hands, as in figure.

Two:— Position.

Note.—Raise right and left knees alternately.

Exercise b. Raising straight leg forward.

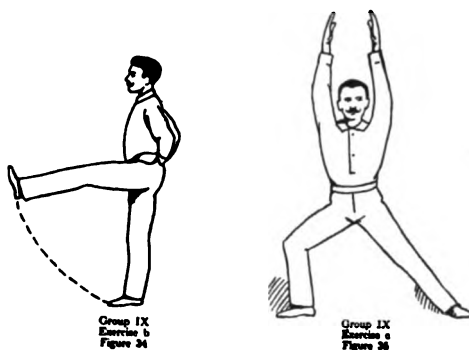
Two counts as in Fig. 34.

One:— Raise one leg straight in front as in figure.

Two:— Position.

Note.—Raise right and left legs alternately.

(Hands on hips during this exercise.)



Exercise c. Breathing exercise.

Two counts as in Fig. 35.

One:— Charge to side and inhale, slowly raising arms sideways at full length above head.

Two:— Recover position and exhale, slowly lowering extended arms to sides.

Note.—Charge to right and left alternately.

Exercise d. Front breathing exercise.

Two counts as in Fig. 36.

One:— Charge forward, inhale, raising arms slowly frontwise at full length above head.

Two:— Recover position, exhale, lowering arms slowly frontwise at full length to sides.



Note.—Charge with right and left legs alternately.

This manual contains also instructions for first aid to the injured, which will be reproduced in the August issue of THE AMERICAN CITY.



WHERE \$1,500 WORTH OF WORK WAS DONE IN ONE DAY AT A COST TO WASHINGTON COUNTY OF \$17

Good Roads Day in Pennsylvania

How the Movement Was Organized—Some Practical Questions and Answers

By Charles M. Ketchum

Secretary, Washington (Pa.) Board of Trade

PENNSYLVANIA observed its first State-Wide Good Roads Day on May 26 last. A tabulation of the results shows that, despite the fact that rain and threatening weather prevailed throughout the state west of the Alleghany Mountains, there were nevertheless 5,707 miles of public roads improved, 82,365 men at work, 14,811 teams on the roads, 1,869 drags in constant use during the day, and 82 road machines in operation. More than 380,000 volunteers agreed to work on the roads on May 26, but the disagreeable weather prevented many from fulfilling their pledges.

The State-Wide Good Roads Day movement had its inception in Washington County, where a very strong Good Roads Day Association had been organized for the promotion of a county Good Roads Day in 1914. On that day last year more than 5,000 people worked on the Washington County roads, and there were 300 teams, 15

scrapers, 5 engines, 2 rollers and 50 road drags, besides 700 automobiles, at work. The estimated value of the materials and money subscribed and expended on the roads was \$11,915. The most striking result, however, was the splendid spirit of good citizenship which was aroused in the county—a spirit which was directly responsible for the construction and continuous operation throughout the year of several hundred roads in the county.

The far-reaching importance of this work was so obvious that the Washington County Good Roads Day Association undertook the promotion of a State-Wide Good Roads Day, making counties the working units. The Central Committee of the Washington County Association was made up of twenty active enthusiasts—the County Agriculturist, County Commissioners, County Engineer, Sheriff, an editor, a private engineer, a prominent physician, a merchant, a minister,



GOVERNOR MARTIN H. BRUMBAUGH "CLEANING UP" PENNSYLVANIA

Center Picture:
STATE HIGHWAY
COMMISSIONER
CUNNINGHAM
WATCHING THE
WORK OF THE ROAD
DRAG IN WASH-
INGTON COUNTY



Bottom Picture:

"THE WHITEWASH
BRIGADE" IN FRONT
OF COMMUNITY
HOUSE

Prominent business
men of Washington, Pa.,
who white-washed tele-
phone poles along 10½
miles of the National
Old Trails Road



WE NEED YOUR AUTO !

Good Roads Day, May 26

Report at County Court House

Because I believe in Good Roads, I will lend my (Car or Truck) May 26,

Between 6 a. m. and noon.....

Between noon and 6 p. m.

ALL DAY.....

(Indicate in blank space above which period you will serve)

My car will hold..... persons besides the driver.

I prefer to go to..... district. If no preference is stated, it will be inferred that you are willing to go where most needed.

Signed.....

Phone.....

Address.....

PLEDGE CARD FOR AUTOMOBILE OWNERS

an attorney, and representatives of the Fair Association, County Editorial Association, commercial organizations, County Supervisors' Association, and the State Highway Department—a body representing all of the organized interests of the county. Each of these committeemen was delegated to present the state-wide movement to all of the organized bodies of the state similar to the one which he represented on the Central Committee. The Central Committee was subdivided into committees on Volunteers, Finance, Transportation, Equipment, Commissary and Administration. Uniform petitions were sent to all organized bodies in the state, and were presented to the Governor. The result was that on April 28 Governor Brumbaugh issued a proclamation calling upon all road supervisors and county commissioners, and able-bodied citizens generally, to work upon the roads on May 26, or to contribute a sum equivalent to the wages of a substitute. The State Highway Commissioner was then induced to appoint an official in his of-

fice to promote the publicity and other details of the state-wide campaign.

As rapidly as county good roads day associations were organized in various counties, the Washington County Association distributed literature throughout these counties explaining the general plan of organization. The Washington County plan was used as a criterion from which modified plans for various counties were formulated.

Each county was urged to and did secure the working coöperation of the local and county granges, of which there are 833 in the state, with a total membership of over

<i>Dig in with us</i>	Good Roads Day	<i>Wednesday May 26</i>
<p><i>Headquarters: Community House</i> <i>J. M. McKee, Secretary</i> <i>Washington, Pa.</i> <i>Bell Phone 200</i></p>		

May 6, 1918.

Dear Sir:-

You have read the proclamations for a State Wide Good Roads Day issued by Governor Brumbaugh and our County Judges, calling upon everyone to work on this day. The enclosed pamphlet explains how the Washington County Good Roads Day Association started the movement throughout the state. Already over 40 counties are organized.

You have been suggested as a representative citizen of your locality, who would push this work, so we are appealing to you personally to boost the movement in your community. A committee has been appointed in each township or borough to organize the work and see what should be done to improve the roads in your locality and finally to get the people out to do it on GOOD ROADS DAY, May 26th. For a complete list of the members of this committee see the local papers May 7th.

You have been appointed on that committee. The chairman of your committee will call you together soon, when you can add to your membership, if desired, complete your local organization, and take such steps as may be necessary to make the movement a success.

ONE DAY FOR GOOD ROADS IN WASHINGTON COUNTY with everybody working. We are counting on you to have the people out in your community.

Sincerely yours,

Organisation (R. L. Munce.
Committee. (G. E. Carothers.
(Rev. C. L. McKee.

You will get better roads. You will earn the esteem and respect of the biggest and best men in your community. You will have an opportunity to distribute your knocks where they will do some good and be able to see some direct results from your labor.

"How can we do the most effective work on our dirt roads?" By the establishment of a road drag patrol system.

An Educational Movement

The greatest value which can come from the promotion of a Good Roads Day campaign cannot possibly be measured by the tangible results. There is a much deeper and more far-reaching effect to be realized from the successful culmination of such a movement. Primarily it is but a great educational campaign and experimenter



Courtesy of The Pittsburgh Post
A 68-YEAR-OLD VOLUNTEER
FOR GOOD ROADS DAY

(if I may coin the word). It develops an enthusiasm for better roads—an enthusiasm which is the first and greatest requisite for obtaining the most lasting and positive benefits.

A Good Roads Day presents a medium for the elimination of petty community jealousies and inspires in their place a spirit of cooperation. It presents an object toward which all elements of society and business may work with one accord and in absolute harmony—a function in which the chief executives of a state, its most brilliant lawyers and most learned doctors, its professors, students, merchants, bootblacks and newsboys,

are brought to a common plane of understanding and mutual purpose.

Pennsylvania will undoubtedly have another State-Wide Good Roads Day.

FACTORS IN THE SUCCESS OR FAILURE OF STREET PAVEMENTS

Under the above heading there will be published, beginning with our August number, a series of articles which, it is believed, will prove of great practical value to everyone having to do with the construction and maintenance of street pavements. THE AMERICAN CITY has asked representatives of leading manufacturers or associations of manufacturers to write these articles and is able to announce, as authors of the first seven of the series, the following:

Asphalt—D. T. Pierce, Executive Assistant, The Barber Asphalt Paving Company.

Asphalt Blocks—E. J. Morrison, President, The Hastings Pavement Company.

Bituminous Macadam—Philip P. Sharples, Manager, Tervia Department, Barrett Manufacturing Company.

Brick—Will P. Blair, Secretary, National Paving Brick Manufacturers Association.

Concrete—W. A. McIntyre, Chief Road Engineer, American Portland Cement Manufacturers Association.

Granite—Zenas W. Carter, Field Secretary, Granite Paving Block Manufacturers' Association of the United States.

Wood Blocks—H. S. Loud, Chief Engineer, United States Wood Preserving Company.

The articles will be published in alphabetical order, as listed above. As the manufacturers of the various types of pavement are vitally interested in the proper construction and maintenance of their products, and have necessarily made a very careful study of this subject, they are able to offer thoroughly practical advice regarding factors to be considered and mistakes to be avoided. It is not the intention of this series of articles to advocate the merits of any particular kind or brand of pavement. The assumption will be in each case that a city has decided to lay a pavement of the type under discussion; the object of each article being to offer suggestions as to how the longest life may be obtained for such a pavement at the least possible expenditure to the municipality.



An important feature of Philadelphia's new and comprehensive city planning scheme is the standardization of the cross-section sub-divisions of the streets. A standard of 18 feet is used as the width of a roadway for two lines of vehicles, to be increased by a unit of 8 feet for each additional line, except in streets to be occupied by a double-track street railway, for which an 18-foot unit is allowed; this gives roadways of 18, 26, 36 and 52 feet for streets of the various widths up to 88 feet. The roadways of some

50-foot streets are being made 18 feet wide; of some 60- and 64-foot streets 26 feet, and of some 88-foot streets 36 feet; these may be widened in the future to meet the needs of increased traffic without disturbing abutting property. Avenues 108 and 148 feet wide have sidewalks each 18 feet wide, divided into footwalk and parking spaces, and two driveways each 26 feet wide, separated by parking spaces which may later be thrown into roadway or occupied by street railways.



News and Ideas for Commercial and Civic Organizations

New Bulletins

Franklin, Pa.—*Members' Bulletin*. Issued from time to time by the Franklin Board of Trade.

Knoxville, Tenn.—*Knoxville Spirit*. Published monthly by the Board of Commerce.

Marshalltown, Iowa.—*Commercial Journal of Marshalltown*. Published monthly by the Marshalltown Club.

Prescott, Ariz.—*Yavapai*. Published monthly by the Yavapai County Chamber of Commerce.

Redfield, S. Dak.—*Redfield*. Published quarterly by the Commercial Club.

Sterling and Rock Falls, Ill.—*Sterling-Rock Falls Journal*. Published monthly by the Sterling and Rock Falls Commercial Club.

✦ ✦

Two Important Government Publications

The Bureau of Foreign and Domestic Commerce at Washington hopes to have available early in July a new directory of national, state and local commercial associations in the United States. This directory will be similar to that published by the Bureau in 1913. By the use of certain well-explained symbols very full information will be given in regard to the local associations which maintain regularly established departments to look after the retail trade, wholesale trade, transportation problems, solicitation of conventions, charity and social settlement work, and agricultural development. The information in regard to the national and state associations will include a wide range of subjects.

A "Statistical Abstract of the United States" is published annually by the Bureau of Foreign and Domestic Commerce. The last volume of this publication has recently appeared and contains the figures for the year 1914. The book contains 707 pages, and the table of contents, which follows, indicates that the material should be

of value to the secretaries of civic and commercial organizations:

- Area, natural resources and population
- Agriculture, forestry and fisheries
- Patents and manufacturing and mining industries
- Occupations, labor and wages
- Internal communication and transportation
- Merchant marine and shipping
- Foreign commerce
- Commerce of non-contiguous territory
- Prices (of silver and gold bullion and of commodities)
- Consumption estimates
- Money, banking and insurance
- Public finance and commercial failures
- Army, Navy, Civil Service, pensions, etc.
- Statistical record of the progress of the United States
- Commercial, financial and monetary statistics of the principal countries of the world
- Index.

The publication is sent free to libraries, educational institutions, the press, and commercial and other organizations.

✦ ✦

More Daylight for Ohio and Michigan

As is doubtless generally known, there is considerable agitation among the cities of the Middle States for the adoption of eastern standard time in those cities, to provide an additional hour of daylight at the end of the working day for purposes of recreation and other worthy objects.

Cleveland and some of the smaller cities in the vicinity have adopted eastern time and are enthusiastically in favor of it. Some of the larger cities in the state are now considering its adoption; and although it seems probable that some of them will fall into line, the sentiment regarding the action in others is divided.

The Cleveland Chamber of Commerce introduced a bill into the last Ohio Legislature providing for eastern time throughout the state. This was defeated, though not unexpectedly. The object in introducing the bill was in reality one of educa-

tion, in the hope that its discussion would help to influence sentiment in its favor, and a similar bill will be introduced at the next session of the legislature. To quote the Cleveland Chamber of Commerce:

"Eastern time is an advantage to the farmer and suburban resident visiting the city; it gives more daylight during the greater part of the year outside of working hours; it exerts a moral influence upon the community, enabling greater recreation and permitting working men and women to return to their homes in daylight during almost the entire year; it is an advantage to those doing business in the East; there is considerable saving in the cost of artificial illumination; and it enables more efficient work in industrial plants."

Detroit has also turned its clocks ahead an hour, the action there being the result of many years of endeavor by the "More Daylight Club," under whose direction an active campaign was carried on. A referendum vote taken of the membership of the Detroit Board of Commerce showed that 1,204 were in favor of eastern time as against 196 in opposition.

* *

A Constitutional Amendment League

SYRACUSE, N. Y.—Since the New York Constitutional Amendment Convention has been in session, it has seemed important to the members of the Syracuse Chamber of Commerce and others in Syracuse interested in public affairs that the people of Syracuse have a better understanding of the proposed revision of the state constitution and of the many questions before the convention. The result was the formation of the Constitutional Amendment League of Syracuse. The Syracuse Chamber of Commerce offered the use of one of its staff as executive secretary and agreed to furnish meeting rooms and to cooperate otherwise with the League to make it of real service to Syracuse.

The main objects of the League are:

To promote public discussion and addresses on constitutional revision questions;

To provide round-table discussions for the study of particular amendments;

To collect information and data on these subjects and exchange ideas with similar organizations in other communities in the state;

To enlist cooperation and to cooperate with other local civic organizations, in order that the citizens of Syracuse may have a clear understanding of the proposed amendments;

To formulate views and bring them to the attention of the local delegates of the Con-

stitutional Convention and cooperate with these delegates in their support.

The membership of the League is representative, being composed of lawyers, doctors, educators, newspaper men, politicians, ministers, students, and business men of almost every class. Several women interested in civic work have also joined.

The first four subjects to be taken up by the League are home rule for cities, the short ballot, budget changes, and conservation of the state's natural resources.

* *

In the Interest of Prosperity

CANAL DOVER, Ohio.—The plan of the Canal Dover Board of Trade to stimulate a return of prosperity by an endless chain system of resolutions is of interest. The resolutions are printed at the top of a legal size sheet of paper attached to several blank sheets upon which to place signatures, and are mailed to the commercial organizations in ten cities in the state, with the request that each organization append its signature and start the resolutions in a certain direction from the town to which they are mailed in the first instance, each commercial organization in that territory which receives it to pass it on to the one in the next town, and so on, until the territory is covered. A list of the ten towns to which the resolutions are mailed and the direction in which the document is to be started from each are given on the first sheet of the document, bound into it.

The ten documents were started on their journey March 3rd and are to be returned to the Canal Dover Board of Trade by September 1, covered with the signatures of every commercial organization in the state with which it has been possible to get in touch, pledged to do all the things stated in the resolutions, which read as follows:

"The Directors of the Canal Dover Board of Trade, being desirous of doing what they can toward alleviating the present commercial depression and of hastening the era of activity which is standing at the door of our nation awaiting an invitation to enter, do hereby urgently request boards of trade, chambers of commerce, and other similar bodies to subscribe to the following declarations, to wit:

"1. We shall do everything in our power, by means of newspaper publicity, mass meetings, speeches, and other methods of molding public sentiment, to stimulate confidence on the part of our fellow citizens and neighbors in the inherent prosperity of the country and the

possibility of immediately-to-be-improved economic conditions;

"2. We shall encourage the buying of goods for resale, the construction of buildings, the inauguration of public improvements, and every other form of activity which may result in the employment of labor and the circulation of money;

"3. We shall have this heading and the signatures thereto published in our local newspapers as soon as the signature of our organization is affixed;

"4. We will send or convey this document to the proper organization in a neighboring city and urge upon said organization immediate action thereupon.

In witness whereof, we have this day caused our official signature to be affixed thereto.

Date..... "Signature."

✦ ✦

Oratorical Contest on City Government

DEFIANCE, Ohio.—The Defiance Chamber of Commerce is making a steadfast endeavor to create in the student body of the community an interest in the cause of the Chamber, feeling that only through the younger generations may the Chamber expect to arouse the spirit of civic pride and progressiveness so essential to the growth of a city. The Chamber of Commerce therefore suggested an oratorical contest, to be participated in by the students of the high school, upon "One Man Management of Cities." Special mention is made of the essay delivered by Herbert Savage, an 18-year-old boy, which discloses a surprisingly clear understanding of city government.

✦ ✦

A Week Devoted to Home Economics

FORT WORTH, TEX.—The "Home Economics Week," promoted by the *Fort Worth Record*, which was recently held in the auditorium of the Fort Worth Chamber of Commerce, is reported to have been of great educational value. There were lectures upon the town beautiful, home architecture, interior decoration, including furnishing, the enjoyment of pictures, home sanitation, pure and clean food, pure water, how to obtain household economy when there is a limited income, school lunches, the farm home, the rural school, and many other allied subjects.

The exhibit of the University of Texas School of Home Economics was of especial interest and attractiveness. This con-

tained a comprehensive array of tested household labor-saving devices, which economize also time and money, supplemented with models and charts, also lantern slide views.

The success of Home Economics Week as an educational influence prompted the leading daily papers of Fort Worth to establish and maintain a special department in their Sunday editions, in which questions upon home economic subjects may be asked and answered.

✦ ✦

Unscrupulous Solicitors Warned

WATERTOWN, N. Y.—A placard intended to ward off solicitors of subscriptions or donations to, or advertising of, illegitimate charitable or other objects, has been issued by the Watertown Chamber of Commerce, to be hung in a conspicuous place in any office likely to be visited by such solicitors.

No Subscription, Donation, Advertisement or other contribution will be considered by us until you have presented the facts concerning your proposition to the

**WATERTOWN
CHAMBER OF COMMERCE**

The Watertown Chamber of Commerce is equipped with information concerning the worthiness of the objects seeking recognition, or with facilities for procuring the needed facts. The placard is here reproduced.

✦ ✦

Safety-First Round Table

RACINE, WIS.—The Racine Commercial Club is conducting a series of round-table discussions under the direction of its Safety and Sanitation Committee upon such subjects as First Aid to the Injured, Safeguarding Machinery, Ventilation, Bad Practices, and all the subjects which relate to the safety of the men at their work or the study of which will increase their efficiency. These are open to superintendents, foremen and all persons who have charge of large groups of men, and are held at the rooms of the Commercial Club. Everyone

present is given an opportunity to take part in the discussions, which become very instructive, since each man receives the benefit of the others' experience in those matters. Attention is also called to the danger often resulting from swearing and from much merry-making about machinery.

The discussions are made increasingly interesting by the use of moving pictures and stereopticon views in which different phases of the subject are illustrated. The Commercial Club has a membership in the National Safety Council, which furnishes large quantities of illustrated literature, and this is generally circulated.

+ +

City Publicity Through Motion Pictures

GRAND FORKS, N. Dak.—Through its Commercial Club, Grand Forks is doing some useful publicity work by means of the moving picture. For several months the Commercial Club has had in circulation throughout the Northwest several films showing scenes in Grand Forks and in the northwestern territory generally, including picturesque scenes from the western mountains, views illustrating advanced farming methods, and scenes from the "Pageant of the Northwest," which was produced on the occasion of the meeting of the Mississippi Valley Historical Society in the summer of 1914, and is in itself a remarkable feature. The pageant was planned and produced by a society of the State University of Grand Forks and depicts important scenes from the history of the Northwest, including the organization of the Hudson Bay Company, the exploration of the Great Lakes, the discovery of the Mississippi River, and the Lewis and Clarke expedition across the continent. These were all presented in costume, with appropriate lines. The pageant was staged in a natural amphitheatre on the university campus, where a little winding stream separates the level ground used for stage purposes from the spectators seated on the sloping banks on the farther side. This "Bankside Theatre," as it has been named, is being fitted up by the planting of shrubbery and the making of other improvements, for permanent use as an out-of-door theatre, and another pageant will be produced there this year.

The films have been in constant use all winter. The Commercial Club had them prepared at its own expense and under its

own direction, and loans them without charge to communities desiring them. The demand for pictures, therefore, has been greater than could be met. Through their use many thousands of people have been made more familiar with the scenery and resources of their own country, with the advantages of improved farming methods, and with new movements along artistic lines. It is the intention of the directors of the Club to extend the service another year.

+ +

Public Sheds Attract Rural Trade

NEWBURGH, N. Y.—The Newburgh Chamber of Commerce is cultivating the patronage of the farming community by furnishing to the farmers and their families free accommodations in the way of public sheds, including the services of a competent attendant, where they may hitch their teams and leave them in perfect safety while they do their trading in the local stores. The sheds are open daily, except Sundays, from six o'clock in the morning until six in the evening. The accommodations are advertised in the daily papers, and are said to be well patronized and to give promise of being an excellent means of attracting the trade of the farmer folk. The entire expense is taken care of by the Chamber of Commerce.

+ +

A Secretary's Committee

STERLING, Ill.—The secretary of the Sterling and Rock Falls Commercial Club, H. F. Whittle, has found that in order to keep live the interest of its members it is necessary to afford them greater opportunity to give expression to their ideas, whether they be good, bad or indifferent. It is also considered important to collect as many ideas as possible and to keep the membership in close touch with the secretary. For this reason the Club has appointed a Secretary's Committee, composed of eighteen young business men, whom he can call together on short notice for consideration of any proposition which requires quick action. The committee has been working in close coöperation with the secretary, keeping him informed at all times in regard to new avenues for service or activities which should be handled by the Club. Industrial prospects are disposed of in this manner, and the plan is said to have more than justified its conception.

Taxation as a Remedy for the Vacant Lot Nuisance

The South Orange Civic Association of South Orange, N. J., recently adopted the following resolutions as a step in its campaign against the vacant lot nuisance:

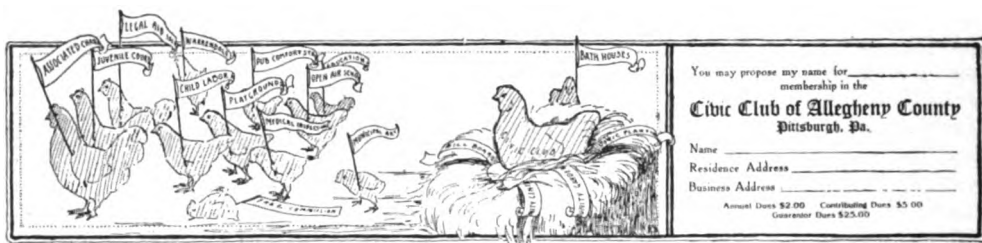
Whereas many of the vacant lot areas of the village constitute a nuisance and menace to health,

Resolved, that the Association, through its appropriate committee, formulate a plan and promote the use of such for gardening purposes;

Resolved, that the Village Board be urged to pass ordinances, if not now existing, to abate such nuisances as weed-growing, mosquito-breeding, dumping, etc.;

Resolved, that the cooperation of the Board of Health be sought to this same end And, finally, be it

Resolved, that the Board of Assessors be urged to tax all vacant areas to the full amount permitted by law, so that their owners may be influenced to put them to productive use.



MEMBERSHIP BLANK OF THE CIVIC CLUB OF ALLEGHENY COUNTY

Growth of Queens Borough

LONG ISLAND CITY, N. Y.—A survey of more than ordinary extent is made of the elements which are necessary to a successful, thriving community in the book descriptive of Queens Borough, New York City, just issued by the Chamber of Commerce of that borough. It is a directory of the community's manufacturing industries; tells, among other things, about the development which will follow the completion and operation of all the rapid transit extensions of the Interborough Rapid Transit Company and the Brooklyn Rapid Transit Company into the borough, including both the elevated and subway lines; states the advantages to residents living in the borough; tells about the growth in telephone service, about the parks, the facilities for power, light and heat, development of its waterfront, railroad and trolley facilities, its borough government, its building development, public libraries, water-supply and newspapers. The book was compiled by Walter I. Willis, Secretary of the Chamber.

The Civic Club and Her Brood

PITTSBURGH, Pa.—The membership application blank of the Civic Club of Allegheny County, with headquarters in Pittsburgh, has some unique and interesting features, as will be observed in the accompanying reproduction. The Civic Club is represented in the cartoon by the hen sitting upon the nest, and her brood represent activities which have been hatched by the Civic Club, and are, in such cases as the Associated Charities, the Juvenile Court and the Legal Aid Society, full-grown, independent, incorporated organizations.

Warrendale is the Allegheny County industrial and training school for boys from the Juvenile Court, secured by a state law which was drafted and advocated by the Civic Club. Through a bond issue of \$90,000 the Club secured six new public comfort

stations, which are now under construction in the city. The open-air schools were conducted for two years by the Civic Club, but have been taken over by the School Board, and eleven additional fresh-air rooms have been opened in the public schools. The playgrounds were initiated and first conducted by the Civic Club and are now under the Bureau of Recreation in the City Department of Public Works. Medical inspection was carried on for two years without charge to the city by the Civic Club and is now conducted by the city Health Department. The Educational Committee has developed night schools for foreigners, which have been taken over by the Board of Public Education. The unfortunate Tree Commission was short-lived, and dropped out because Council refused to make adequate appropriation for its work.

It will be observed that in the cartoon Medical Inspection is looking at the Tree Commission, which means that the Civic Club hopes some time to bring this little fellow back to life. The baths represent

an investment of about \$200,000 in the People's and Soho Baths. The Municipal Art Committee has attempted the preservation of the "Point" district and the adjoining water-fronts. It is new, but is said to have made a good start.

The hen is supposed to be mothering certain activities which are in their initial stages, such as the solution of the billboard problem, community centers and gardens, and it is hoped that by next year they will be among the little army of actual achievements and a few more eggs will be hatched out.

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Parks and Parkways in the Bronx

NEW YORK CITY.—The recent survey of the Committee on Parks and Parkways of the Bronx Board of Trade is an indication of the importance which that organization attaches to an adequate system of parks. The facts which were collected are presented in a booklet entitled "Parks and Parkways of the Borough of The Bronx, New York City," profusely illustrated with views from the many beautiful parks which are to be found in The Bronx. The subject is gone into very thoroughly, from a physical analysis and description of the parks themselves, their historical associations and acquisition, to the organization of the Park Department, park policing, and park ordinances.

In compiling the booklet, the committee had in mind its value as a source of information and reference for those interested in the Bronx parks, also as a basis for comparisons of different kinds in subsequent years, so that criticisms of the Department in the borough should be based upon a knowledge of all the facts.

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A Community Banquet

ROCHESTER, MINN.—A community banquet was recently held in Rochester, arranged jointly by the Commercial Club and the Civic League, the latter being a women's organization. The idea originated in the Commercial Club, whose directors were desirous of bringing the people of Rochester together in an evening of good fellowship that would engender a community consciousness and help to promote the

community spirit. Men and women from all walks of life, about 300 in number, were in attendance.

Students of the domestic science department of the high school prepared the repast, and it was served by teachers and faculty members of the Rochester schools. Twenty high school cadets, in full uniform, assisted at the tables, and lent not only color to the evening's entertainment, but highly appreciated service.

The dinner was followed by music and addresses. Civic affairs in general were freely discussed, and many suggestions of ways and means of improving conditions in Rochester were offered. The chairman of the building committee of the Commercial Club contributed an interesting talk upon the new community house which is to be erected in Rochester shortly, and illustrated his talk with lantern slide views of the new building as it has been planned.

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A "Prosperity Carnival"

PITTSBURGH, PA.—The Pittsburgh Commercial Club endeavored to demonstrate to the public through the "Made in U. S. A. Prosperity Carnival," which it promoted and which continued through two weeks in May, the enormous resources of our own country and the importance of buying goods made under the Stars and Stripes.

Motor Square Garden, where the carnival was held, was laid off in streets and avenues, the principal one of which was known as Lincoln Highway. On either side of this so-called highway were booths representing the 48 states and territories of the Union, from each of which official data regarding the history and resources of the Commonwealth had been received, as well as specimens of its products. In addition to the exhibits of products, much information was portrayed in pictures and other decorations on the booths.

On the last day of the carnival the "Buy it now" movement was agitated in addition to the buying of made-in-U.-S.-A. goods. The occasion was truly a carnival, for good cheer, and optimism prevailed. It also afforded a means for the interchange of valuable ideas among the business men of the community and the promotion of relationships of lasting benefit.

An Automobile Sociability Tour

COLORADO SPRINGS, COL.—The recent Pikes Peak Ocean-to-Ocean Highway automobile sociability tour was organized and carried out under the auspices of the Colorado Springs Chamber of Commerce, the Manitou Springs Commercial Club and the Pikes Peak Ocean-to-Ocean Highway Association. The party left Colorado Springs and Manitou on April 14 and returned in three weeks. The main objects of this long trip of 3,300 miles were to arouse further interest in the good roads movement and in the "See America" idea, and to bring about a closer acquaintance between the people of the Pikes Peak region and those of the Mississippi states.

The pilgrimage extended through the states of Colorado, Kansas, Missouri, Illinois, Indiana and Iowa; 400 cities and towns were visited and more than a dozen of the most important highways making up the Pikes Peak Ocean-to-Ocean Highway were traveled.

Of the total mileage of 3,300 miles, there were less than 100 miles, in round numbers, of very poor roads. At least 90 per cent, it was thought, of the roads traveled had been graded and otherwise improved in a

permanent way, and a large percentage of them, it was found, were systematically dragged and otherwise taken care of so as to minimize the effects of bad weather. A running time of 27 miles an hour was maintained for the 1,300 miles between Colorado Springs and Indianapolis over the Pikes Peak Ocean-to-Ocean Highway, indicating the fine condition of the roads on that highway.

In anticipation of the approach of the automobile party, there were frequent demonstrations of hospitality, and roads were dragged, bridges repaired and highways freshly marked. At Springfield, Ill., Governor Dunn officially received the party. State Highway Commissioner F. W. Buffum accompanied the Coloradoans practically every mile through Missouri, and the party was received at different points on the route by mayors and other city officials. Chief Manitou, an Indian chief, attired in native costume, accompanied the party, coming out of the mountains of the West to visit the lands which only a short time ago had belonged to the people of his race. In some towns school was dismissed and the children brought to greet the Chief, whose dances and Indian songs were every-



CHIEF MANITOU POINTING OUT THE ROUTE OF THE PIKES PEAK OCEAN-TO-OCEAN HIGHWAY TO MR. C. F. ADAMS, PRESIDENT OF THE ASSOCIATION

In the car: J. E. McNich, First Vice-President (at the wheel), and Col. F. W. Buffum, State Highway Commissioner of Missouri

where an attraction of unfailing interest.

The photograph herewith reproduced shows a section of the automobile party, with Chief Manitou pointing out the route.

+ +

A Mayor's Dinner

PROVIDENCE, R. I.—It is believed that the mayor's dinner is a new idea in commercial organization circles in this country. The secretary of the Providence Chamber of Commerce recalled the old custom in London for the Board of Trade to give a dinner each year to the Lord Mayor, to which all other city officials were also invited, in order that cordial relations might be established and maintained between the public servants of the community and the industrial, commercial and financial interests. The idea seemed a good one to adopt

in Providence, and such a dinner was therefore held in May, at the last meeting for the season of the Committee of One Hundred. The Mayor and all the public officials of the city were invited, regardless of membership in the Chamber of Commerce, and purchased their own tickets at the regular price.

The dinner was well attended and is said to have been a delightful occasion and to presage results of a far-reaching character. The Mayor made a happy address, and two city officials who had not formerly been considered especially friendly toward the organization were particularly cordial in their comments upon the accomplishments, activities and promising future of the Chamber. A silver and cut-glass punch bowl was presented to the chairman of the Committee of One Hundred.

New Model Street Signs for Manhattan

THE problem of providing street signs of the best possible type for the Borough of Manhattan, New York City, is one to which Borough President Marks has given long and careful study. He insisted upon finding, if possible, a type of sign that would enable people to determine definitely and at a glance the name of the street or avenue on which they might be, and also the name of the cross street or avenue toward which they might be looking; that these signs should be legible at a considerable distance; that they should be so placed in relation to street lights as to be readily visible at night as well as in the daytime; and that they should also satisfy the most exacting conditions as regards attractiveness and economy. As a result of this study a type has been evolved which meets these requirements.

The new signs, like the old, are placed on lamp-posts at street intersections on diagonally opposite corners. The sign consists of a steel plate 22 inches long and 7½ inches high, having at the centre of the top a semi-circular projection 11½ inches wide at the base, with a radius of 5½ inches. On the main body of the sign plate is indicated the name of the street or avenue which the sign parallels; on the semi-circular projection at the top is indicated the name of the cross street or

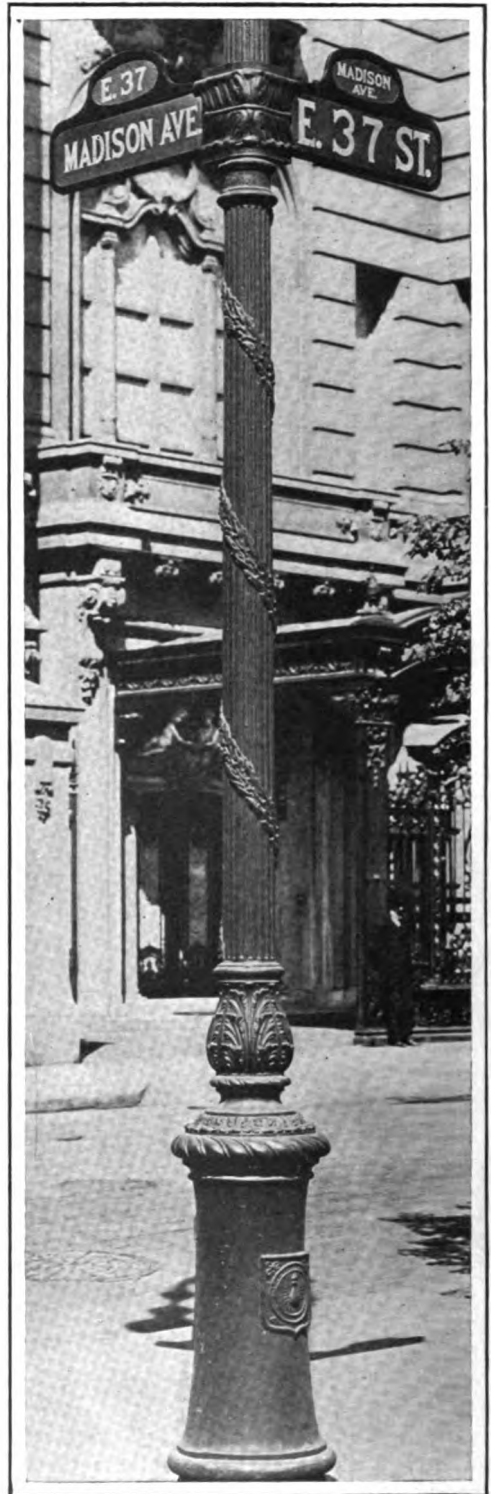
avenue. The lettering is white and 4 inches high, on a dark blue background enameled on the plate. The sign plate is held in a bronze-colored skeleton steel holder, into which it is inserted from the top. The sign plates are reversible and can be seen from either side. The holder is so designed as to afford a rectangular framing for the name of the street or avenue which the sign parallels, and an oval framing for the name of the cross street or avenue. The holder or frame is made as flat as possible, all unnecessary ornamentation being omitted not only to enhance the dignity and good appearance of the sign, but also to prevent as far as possible the face of the sign from being darkened by shadows such as are cast by the projecting ornamentation on signs of other types now used in the city.

On each pole there are two of these frames splayed at an angle three degrees greater than that at which the two streets intersect. This excess angle is for the purpose of having the sign slightly turned toward the observer. The frames are fastened to the post by means of circular steel traps. The new street signs are practically indestructible. About 1,500 have already been installed, and the work of installing them is being carried forward as fast as possible.

The best of the old types is the "wing sign." Its great defect is that it does not indicate the cross street or avenue. There are throughout the city 1,505 of these signs. When the new type was adopted, it was planned not only to install the new signs and frames as fast as possible, but also to utilize the old frames by removing them, converting them into the new types through the welding on of a top projection and replacing them on poles. The expense of converting the old frames into those of the new type would have been less than that of purchasing new frames. An ingenious suggestion by Assistant Commissioner Folks, however, has been adopted, which will obviate even this expense. His plan is not to change the old frames, but merely to insert in them the new type of sign plates on which the edges of the top projection are enameled in bronze to simulate the appearance of the top projection of the frame. This will save the city \$5,625 of immediate outlay, which will, therefore, be available for extra signs.

Even though the signs of the new type are superior to those of the old, the department has been able to secure them at a lower price. Signs of the old type cost \$7.50 each, whereas those of the new type are costing \$5.75 each. Furthermore, the new sign plates which are to be installed wherever possible in the old frames are costing 72½ cents each.

An additional suggestion by the Assistant Commissioner has been adopted, namely, that in the future this plan of using the old type frame for the new type sign be continued. As a matter of fact, the appearance of these signs with the enameled "top frame" is even on close inspection virtually as good as when the new signs are placed in the new type of frame. Moreover, they can be installed at so great a saving that under the appropriation now available for the installation of street signs, many more signs can be installed than would have been possible but for this idea. There are altogether in use throughout the city seven other distinct types of street signs, which will be supplanted as fast as possible by those of the new type. Numerous letters of appreciation of the new signs have been received from prominent citizens and associations. All welcome this much desired improvement.



NEW STREET SIGN IN NEW YORK CITY

Cooperation Plus Hard Work Equals a White Way

How It Was Done in Corning, N. Y.

By Henry Ellis Bodine

Former Secretary, Corning Chamber of Commerce

A WELL-INSTALLED system of ornamental lights transforms the most ordinary street. Just as a beautiful electric sign fixes in your mind the location of the business house it advertises, so does a brilliantly lighted business street impress upon your mind the name and location of the city in which you saw it. The installation of a modern lighting system is a real event in the life of every city. A "White Way" is a blazing municipal advertisement, remembered and commended by every visitor, one of the most conspicuous of public improvements.

Like many other well-meaning cities, Corning "talked White Way" for years.

The apparently prohibitive expense always floored its most ardent advocates, but teamwork has won one of the greatest single improvements Corning has achieved in thirty years.

Financing the Undertaking

Officials of the Chamber of Commerce determined that a way should be found to finance a new lighting system. A conference was arranged, calling together the officials of the city, the lighting corporation and the Chamber of Commerce. The Mayor consented to support in Councils a plan whereby the city would pay for the electric current consumed by the new light-



CORNING'S WHITE WAY

ing system, provided the property owners and business interests fronting the section of Market Street to be lighted, would purchase and erect the poles, glassware, etc., and the Corning Light & Power Corporation would purchase and lay the conduit cable and wire, and furnish the nitrogen lamps for the posts. This plan divided the expense in three parts, which solved the problem. No great burden now rested upon anyone, and all interested had to bear their just proportions of the cost.

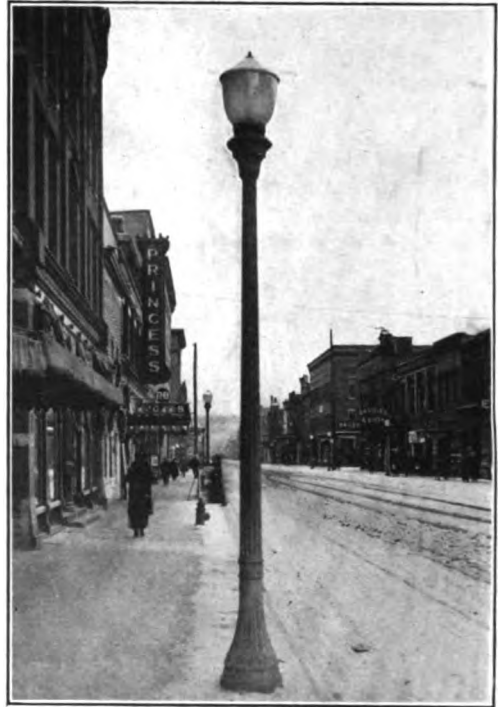
The general type of post and lamp, and their arrangement and distribution were points determined by the Chamber of Commerce Committee on Municipal Affairs.

The section of Market Street that it was proposed to light is about 3,600 feet in length, or six blocks. The plan provided for twelve posts per block, arranged six on each side of the street in pairs (not staggered), and placed so that at each street intersection each of the four sidewalk corners would have a post. This arrangement required seventy-four posts, five of which were combination fire-alarm and lighting posts. The lights are about 100 feet apart and of 400 candle-power each, which gives a lighting efficiency of practically 1,600 candle-power every hundred feet.

Like most new propositions, this one presented many technical details that were constantly arising to puzzle our committees. But the first problem was not technical; it was the old proposition that every committee has to face—"What will it cost and how shall we induce each of the several hundred property owners and business men to pay his share?" Well, we didn't get them all, but enough were secured to guarantee the lights, which is about all you can expect in any community.

Figures were obtained from many companies dealing in poles and fixtures, and finally it was thought that \$600 per block would foot the bill for the property owners' and business men's share of the cost. As there are 48 lots per block, 24 lots of 21 feet frontage on each side of the street, the committees quickly estimated that \$12.50 per lot would be about right, and solicited subscriptions on that basis. When final settlement was made, it was found that if each lot had paid its share the cost would have been \$9.16 per 21-foot lot, a most reasonable figure for so great an improvement.

However, it must be borne in mind that the



NEW LIGHTING POSTS ON MARKET STREET, CORNING, N. Y.

Note the absence of all other poles, excepting the two tall ones in the distance, which are stripped of wires and ready to be removed

lighting corporation's share is not included in that estimate. Its part was extra.

Figures showing the actual cost for lights in one block, just what the lot owners and business houses paid for twelve posts and their share of the attendant expenses, will be of interest to towns considering installing a system, and are given below:

Twelve cast iron posts.....	\$201.10
(We secured a discount from the straight \$17.75 rate by prompt payment.)	
Twelve concrete bases.....	41.80
Compensators, sockets, insulators, etc.....	61.30
Glassware, exclusive of nitrogen lamps.....	94.80
Miscellaneous materials used, washers, bolts, galvanized iron, etc.....	3.48
Painting and grouting poles.....	6.00
Freight, Express, cartage, etc.....	19.72
Labor erecting poles.....	11.52
Total.....	\$439.68

The Installation and Its Effect

The posts were made by the Morris Iron and Steel Company, of Frederick, Md., and are 12 feet high with a 16-inch base, and each is surmounted with a 400-candle-power Nova Lux fixture. As noted, the posts cost \$17.75 each, less discount, but other items brought the figure up to \$36.64 each. This is exclusive of a considerable expense

borne by the lighting corporation, and does not include cost of maintenance, which is borne by the lighting corporation and the city. All work is of good standard quality. Nothing cheap was used. It is understood that the Corning Light & Power Corporation expended \$2,800 for cable, conduit, regulator and other necessary equipment, labor, etc., to insure a first-class installation. With such splendid coöperation a city cannot help but forge ahead.

A contract is in force between the Corning Light & Power Corporation and the city of Corning providing for burning three lamps per block all night at \$52.80 each per annum. All other lamps are extinguished at 11 P. M., and for them the city pays \$26.50 each per annum. All lamps are turned on promptly at dusk.

One improvement brings another. A recent development is a movement to banish all other poles from the street. It has worked out finely to date. Several blocks

are already cleared. With new vitrified brick pavement, with concrete curbs and up-to-the-minute ornamental standards, Corning's business district presents an appearance that reflects credit on the entire community. This section of the city is virtually remade; it doesn't look like the same place. The civic spirit thus aroused has had a far-reaching effect. Many neighboring cities have sent delegations here to inspect the improvements, and a constant stream of inquiries pours into the Chamber of Commerce.

Every line of business and every type of progressive citizen shared in working out the White Way proposition, including bankers, merchants, manufacturers, the lighting corporation, the Mayor and several ex-mayors, and the Board of Aldermen, nearly all affiliated with the Chamber of Commerce. It was a common cause, and the honors are equally divided, as is the privilege of enjoying the lights.

Privately-Owned versus Publicly-Owned Water Meters

Excerpts from the Discussion at the Superintendents' Day Session of the Recent Annual Convention of the American Water Works Association

In Favor of Privately-Owned Meters

By GEORGE HOUSTON, Kalamazoo, Mich.:

Some contend that it is best for the municipality to retain the ownership of meters, for the reason that it gives the city full control in the care and inspection of them, which it could not have were they owned by the consumer.

We do not agree with those who hold this view, as experience has taught us that it makes no difference along this line whether the city or the individual owns the meter. As fully 90 per cent of the meters in use in our city are privately owned, we feel as though we are quite well posted on the question.

When we first began the installation of meters we thought best that the city own them, but we soon found that people were very careless about protecting them, particularly against frost, and as we were put

to a great deal of trouble as well as expense by reason of such carelessness, we set about to find some way out of the difficulty.

We finally hit upon the plan of giving the individual the privilege of either buying a meter outright or renting it. If he buys it he gets it at cost, and if he rents it he is charged an annual rental of 25 per cent of the cost of the meter and setting same, but is given credit for 40 per cent of all rents paid, which will pay for a meter in full in ten years. This, as you will probably conclude, is a modest way of forcing the people to own meters, but it has worked out nicely with us.

In handling matters in this way we have never had to make an appropriation for the purchase of meters except the first one of \$4,000. The moneys received from rentals and the sale of meters have enabled us to keep the wheels revolving and to have a supply on hand at all times; and as we buy meters only as we need them, they are gen-

erally disposed of before the bill comes due.

We have never had any more trouble in exercising full control over privately-owned meters than we have over those owned by the city, and we find that persons who own their own meters, as a rule, take more pains in the setting and care of them than do those who rent them.

I presume that it might be well to state that we do not rent meters that are above 1½ inches in size, but require them to be paid for when installed, and so do not have any large, expensive meters on hand.

If conserving the supply of water by a complete metering of plants were to be followed out by many of our cities, where a shortage of water now exists, it would be found, as we have found in our case, that they have an abundant supply for all needs and will have for many years to come.

The foregoing statements were presented in a paper before the Central States Water-Works Association in 1911, and that has been our practice since. I doubt very much if you could go to Kalamazoo and by vote of our meter users or water takers have the plan changed now, because they all prefer to own their meters as a rule.

The city repairs the meters, charging cost for the parts and also for the time of the man making the repairs.

We have two methods of collecting for repair of meters. The city does not take off any meters that have been damaged by freezing; we require the property owner or some one for him—it may be the plumber or anyone else—to bring the meter to the office. Our men then repair the meter and we make out a bill and attach it to the meter, and some one has to pay that bill before the meter goes out. In other cases when repairs are made, the meters are put back into service and a report of the time and material is made to the office. We add that to the next outgoing bill and it has to be paid at the same time the bill is paid for water, regardless of whether the bill is being paid by the renter or by the owner of the property. If the renter pays the meter rental, if he is under obligation to pay the water bill, he usually collects or deducts the amount paid for the meter repairs from the next rental paid for the property.

The city reserves the right to furnish all meters. We have for a good many years

had three different styles of meters from which consumers can make selections, so that no single kind is adopted as the standard meter.

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Ownership by the Company or the City

By C. W. WILES, Secretary Delaware Water Company, Delaware, Ohio:

I have had experience both ways. We have about 90 per cent of our meters owned by the company and 10 per cent owned by individuals. I believe in the ownership of the meters by the company, for if a meter has been running five or six years and the books show that it has been dropping behind, that meter ought to come out. We took out over forty this spring, because we thought they had been running longer than they were likely to run correctly. We found that 75 per cent or 80 per cent of those meters had been running slow, so we took them out without asking anybody's permission. We simply recorded on our books that the meter had been changed and another meter put in there. If the meter were taken out without putting another in its place, it would be necessary to estimate the consumption until replaced. One advantage of the company's owning the meter is that there is no controversy then over its ownership or repairs.

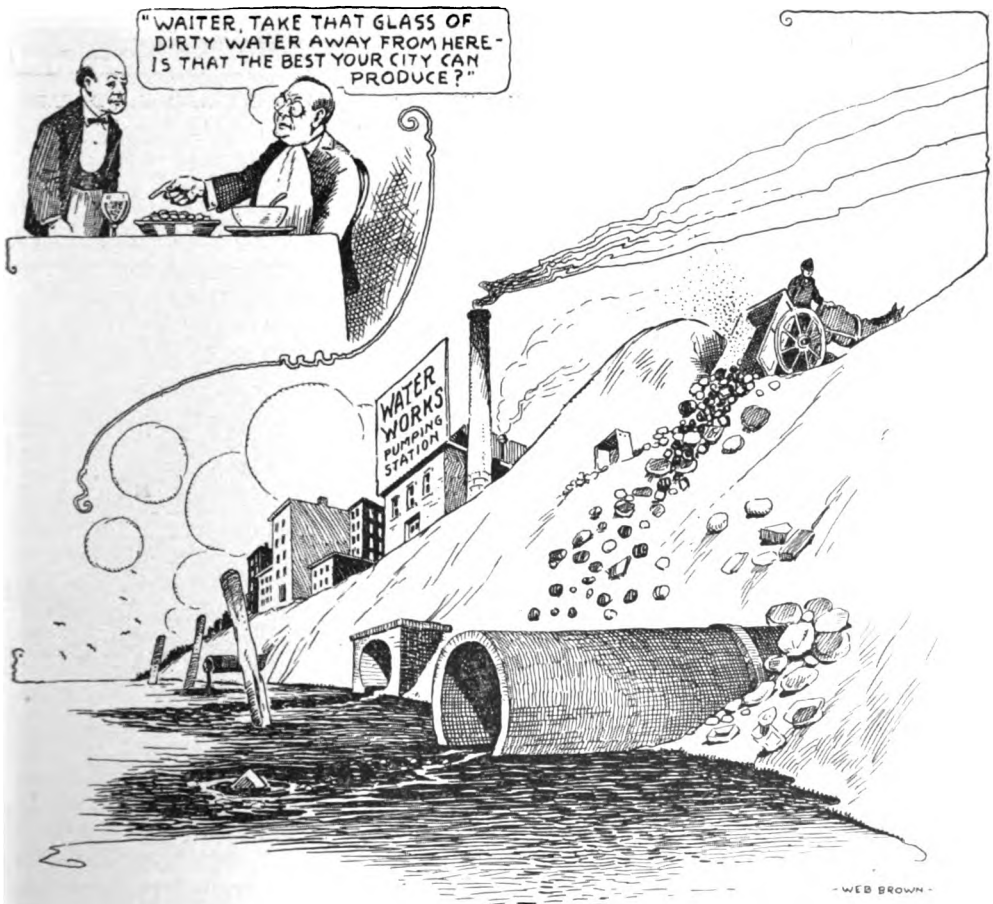
By HENRY P. BOHMANN, Superintendent Water Works, Milwaukee, Wis.:

Milwaukee has about 161,000 meters in service, all of which are owned by the consumer. I wish to go on record that meters should be owned by the city; our experience has proved that to be the correct position to take. We have about thirty-five different makes of meters in service, good, bad and indifferent; whereas if the Department had had the selection of the meters, we would have confined ourselves to about two or three good types. The meters are furnished by the plumbers, who charge anywhere from \$10 to \$20, whereas if the Department owned the meters we would buy in large quantities and furnish them for \$5 or \$6. Indirectly that would be of benefit to every consumer. We have thirty-five meter readers who read the meters monthly and report as to how they are registering. If they are not registering properly, the

next step is to take out the meter, sending a written notice to the consumer and asking him to sign the notice to have the meter repaired. The consumer has ten days to sign and send in that notice. In the meantime the meter is waiting in the shop. After the expiration of ten days it is repaired, and then it necessitates a second trip to replace that identical meter. Meanwhile the Water Registrar is advised that the meter has been taken off and replaced, and then

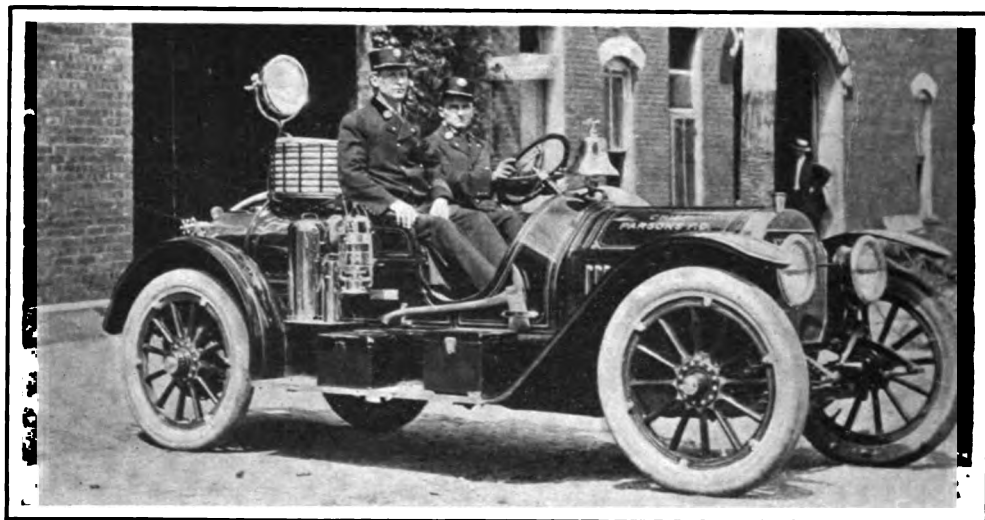
the account is averaged. That is a simple proposition in the ordinary residence, but out of our total revenue one-half is paid by 100 consumers. It is very difficult to find a proper method of averaging the account when the customer is using from \$25,000 to \$75,000 worth of water a year. The fact that the gas and electric utilities furnish meters is pretty good evidence, I think, that the water departments and companies should follow suit.

The Waiter and the Water—and No Wonder!



THE WATER-WORKS—NOT THE KITCHEN—IS THE PLACE TO PURIFY THE CITY'S DRINKING WATER

Types of Motor Apparatus for Fire Departments



ANDERSON TYPE OF CHIEF'S CAR WITH CHEMICAL EQUIPMENT AND GOODYEAR TIRES, IN USE AT PARSONS, KAN.



A LINE-UP OF MOTORS OF THE BALTIMORE FIRE DEPARTMENT
Including chief's car, hose wagons, truck and engine, of American-La France, Couple-Gear and White makes, equipped with Firestone and Goodyear tires.

The Versatile Motor Truck in Two of Its Many Lines of Service



A PACKARD TRUCK AND A TROY TRAILER TRANSPORTING EMPLOYEES FROM THE PACKARD COMPANY'S PLANT IN DETROIT DURING THE RECENT STREET CAR STRIKE

Suggesting the possibilities of the trailer in connection with jitney bus service



PULMOTOR EMERGENCY WAGON, USED BY THE CONSOLIDATED GAS COMPANY OF NEW YORK

Such outfits have been found of value by many public service companies and other organizations

Legislation Affecting Municipalities

EDITOR'S NOTE.—While there was disappointment in many states at the failure of the recently adjourned legislatures to enact certain measures advocated by the friends of municipal progress, the sessions were by no means barren of beneficial results. Without attempting a thorough survey of such legislation, we present on the following pages information regarding a few new acts of special interest to readers of THE AMERICAN CITY.

New Legislation For California Municipalities

By William J. Locke

Secretary, League of California Municipalities. San Francisco

THE California Legislature, which adjourned May 8 last, enacted some important legislation for the cities and towns of that state, much of which was introduced and passed at the request of the League of California Municipalities. As many of the new measures would undoubtedly be of interest to readers of THE AMERICAN CITY, we herewith present a synopsis of those of the most importance.

Preferential Voting

One of the new laws enacted authorizes the use of the preferential system of voting by cities and towns of the fifth and sixth class, of which there are about two hundred. The system provided is substantially identical with the one incorporated in the new charter of the city of Napa, Cal. Under its provisions the ballot is divided into three columns and voters are permitted to mark their first, second and other choices. After the polls are closed, the officers of election canvass all the first choice votes cast, and should any candidate have a majority of first choice votes he is declared elected. In case no candidate has a majority of first choice votes, the second choice votes received by each respective candidate are added to their first choice votes, and the candidate then having the greatest number of votes over a majority is declared elected. In the event that no candidate yet has a majority, the votes cast in the third column are thereupon added and the candidate then having the largest total vote is declared elected.

It is claimed that this system, while avoid-

ing the expense and annoyance of a primary election, has all its advantages and more, as the successful candidate under this system will represent the choice of the greatest number of voters. The preferential system of voting has given excellent satisfaction wherever it has been tried. Under the new California law the use of the system is not mandatory.

Local Improvement Bonds

Another important measure is a new law relating to the issuance and redemption of local improvement bonds. Under the old law, separate bonds are issued for each lot, and many of the bonds are in odd amounts and of very small denominations. For these reasons such bonds are comparatively unattractive to investors; again, in case of delinquency, the obligation falls upon the bondholder to initiate proceedings for enforcing payment.

Under the new law, each bond runs against the entire assessment list instead of a single lot, which enables the bonds to be issued in equal amounts and of larger denominations. The interest and principal are added to the municipal tax bills and collected at the same time and in the same manner as municipal taxes. Under the tax laws of most of the cities and towns of California, the property is sold to the city in case of delinquency; therefore the payment of these local improvement bonds is absolutely assured in every case beyond all question of doubt. In fact, such a bond should be almost as attractive as the bond of the municipality itself, for the reason

that payment is practically secured by taxation. It is predicted that this law, by almost entirely removing the bondholders' hazard, will result in saving hundreds of thousands of dollars annually to the cities and towns in the cost of local improvements.

City Planning Commission

Another new law that has attracted considerable attention is a measure providing for the establishment, government and maintenance of City Planning Commissions in municipalities and prescribing their powers and duties.

This law authorizes the legislative body of any city or town to create a City Planning Commission for the municipality. Such a commission shall consist of five members, appointed by the executive head of the council by and with the consent of the other members. One member of the commission must be a member of the legislative body of the municipality; the city attorney and city engineer are also ex-officio members of the commission. The five members classify themselves by lot so as to hold office for two-year periods. Non-residents are eligible to appointment on the City Planning Commission. Except the secretary, the members of the commission shall not receive any compensation.

It is provided that the commission shall elect one of their number President and one Secretary, and shall hold meetings at least once a month. The powers of the commission are as follows:

1. To make recommendations regulating the future growth and beautification of the municipality in respect to its public and private buildings and works, streets, parks, grounds and vacant lots.

2. To recommend plans regarding the proper sanitation of the city and proper service of all public utilities, harbor, shipping and transportation facilities.

3. To recommend the approval or disapproval of maps or plats of new subdivisions or tracts of land before such maps are filed for record.

4. It is also provided that the City Planning Commission may make a map or maps of the city, including adjacent territory outside the corporate boundaries; also show the locations or relocations proposed for new public buildings, civic center, parkways, boulevards, playgrounds, etc., also any pro-

posed widening, extension, closing or relocation of any street.

Another provision of the act requires that all resolutions or ordinances introduced in the City Council relative to the location of public buildings or widening or ornamentation of streets, or ordinances relating to housing, building codes, or zones shall first be submitted to the City Planning Commission before action by the council. The act also authorizes levy of a tax not exceeding two mills on the dollar to cover the expenses of the commission.

A New Weed Bill

Another important measure is one for which there has been considerable demand in recent years. It is a bill designed to facilitate the removal of weeds from vacant lots and sidewalk areas. The first section defines all weeds bearing seeds of a wingy or downy nature, or attaining such a large growth as to become a fire menace when dry, to be a public nuisance. Action is taken by the City Council describing the property upon which any such weeds are growing and declaring the same, by resolution, to be a public nuisance. The act provides that a description of the property by lot and block number according to the tax assessment map will constitute a sufficient description.

After the passage of the resolution the street superintendent posts a notice on the property headed "Notice to Destroy Weeds," which notice specifies the time for hearing objections, which shall be at least five days after the completion of the posting. At the time mentioned the City Council shall hear and consider objections, and after disposing of the same the Council is deemed to have acquired jurisdiction to order the work of removal.

The street superintendent is thereupon ordered to abate the nuisance by removing the weeds. After doing the work he files a report of the cost to be assessed on the various lots, which report is posted for at least three days on or near the chamber door of the Council, together with a notice of the time for hearing and modifying or confirming the report. At the time fixed the report is considered, and modified if necessary, and finally confirmed, whereupon the amounts of the various assessments are transmitted to the assessor and tax collector and added to the regular tax bills for collection.

An Act to Simplify the Revision of City Charters in Massachusetts

IN accordance with Chapter 267 of the laws of Massachusetts, approved May 20, 1915, any city of the state, except Boston, may adopt any one of four plans of municipal government. By petition of 10 per cent of the registered voters, filed at least one month prior to a regular state election, the plan proposed in the petition is submitted to the voters for their acceptance or rejection. The four optional plans provided in the act are, in brief, as follows:

Plan A.—Government by mayor and a city council of 9, elected at large.

Plan B.—Government by mayor and a council of 11 to 15, elected partly by districts and partly at large.

Plan C.—Commission form of government; the city council consisting of 5 commissioners elected at large, including a mayor, who shall be the commissioner of administration; a commissioner of finance; a commissioner of health; a commissioner of public works, and a commissioner of public property.

Plan D.—City manager form, consisting of a mayor and four other commissioners, who shall appoint a city manager. The duties of the city manager are defined as follows:

"Section 11. The city council shall appoint a city manager, who shall be the administrative head of the city government and shall be responsible for the administration of all departments. He shall be appointed with regard to merit only, and he need not be a resident of the city when appointed. He shall hold office during the pleasure of the city council, and shall receive such compensation as it shall fix by ordinance.

"Section 12. The city manager shall (1) be the administrative head of the city government; (2) see that within the city the laws of the state and the ordinances, resolutions and regulations of the council are faithfully executed; (3) attend all meetings of the council, and recommend for adoption such measures as he shall deem expedient; (4) make reports to the council from time to time upon the affairs of the city, keep the council fully advised of the city's financial condition and its future financial needs; (5) appoint and remove all heads of departments, superintendents and other employees of the city.

"Section 13. Such city officers and employees

as the council shall determine are necessary for the proper administration of the city shall be appointed by the city manager, and any such officer or employee may be removed by him; but the city manager shall report every such appointment and removal to the council at the next meeting thereof following any such appointment or removal.

"Section 14. The officers and employees of the city shall perform such duties as may be required of them by the city manager, under general regulations of the city council."

All of these optional forms of charter provide for the initiative and referendum on local ordinances and certain other questions. All four plans place the conduct of the public schools in charge of a school committee, consisting of the mayor as chairman and six members elected at large.

* *

All Ohio Municipalities Authorized to Appoint City Planning Commissions

The following act has been adopted by the General Assembly of the State of Ohio, to take effect January 1, 1916:

Section 1. The Council of each municipality may establish a City Planning Commission, consisting of seven members, the Mayor, the Service Director, the President of the Board of Park Commissioners, and four citizens of the municipality, who shall serve without compensation, and who shall be appointed by the Mayor for terms of six years, except that the term of two of the members of the first commission shall be for three years. Whenever such a Commission is appointed, it shall have all the powers conferred in Section 4344 of the General Code.

Section 2. The powers and duties of the Commission shall be to make plans and maps of the whole or any portion of such municipality, and of any land outside the municipality, which in the opinion of the Commission bears relation to the planning of the municipality, and to make changes in such plans or maps when it deems same advisable. Such maps or plans shall show the Commission's recommendations for new streets, alleys, ways, viaducts, bridges, subways, parkways, parks, playgrounds, or any other public grounds or public improvements; and the removal, relocation, widening or extension of such public works then existing. With a view to the systematic planning of the municipalities, the Commission may make recommendations to the Mayor, Council and department heads concerning the location of streets, transportation and communication facilities, public buildings and grounds.

The Commission shall have the power to

control, preserve and care for historical landmarks; to control in the manner provided by ordinance the design and location of statuary and other works of art, which are or may become the property of the municipality; and the removal, relocation and alteration of any such works belonging to the municipality; and the design of harbors, bridges, viaducts, street fixtures and other public structures and appurtenances.

Whenever the Commission shall have made a plan of the municipality, or any portion thereof, no public building, street, boulevard, parkway, park, playground, public ground, canal, river front, harbor, dock, wharf, bridge, viaduct, tunnel, utility (whether publicly or privately owned) or part thereof shall be constructed or authorized to be constructed in the municipality or said planned portion of the municipality until and unless the location thereof shall be approved by the Commission; provided that in case of disapproval the Commission shall communicate its reasons for disapproval to Council, and the department head of the department which has control of the construction of the proposed improvement or utility; and Council, by a vote of not less than two-thirds of its members and such department head shall together have the power to overrule such disapproval. The narrowing, ornamentation, vacation or change in the use of streets and other public ways, grounds, and places shall be subject to similar approval, and disapproval may be similarly overruled. The Commission may make recommendations to any public authorities or to any corporations or individuals in such municipality or the territory contiguous thereto, concerning the location of any buildings, structures or works to be erected or constructed by them.

Section 3. The Municipal Planning Commission shall be the platting commission of the municipality, and all the powers and duties provided by law for platting commissioner or commissioners of municipalities shall upon the appointment of a Municipal Planning Commission under this act, be deemed transferred to such Commission.

Section 4. Council may authorize the Commission to control the height, design and location of buildings.

Section 5. The Commission shall have power to control, appoint or employ such architects, engineers and other professional service, and to appoint such clerks, draughtsmen and other subordinates as it shall deem necessary for the performance of its functions; the expenditures for such service and employments to be within the amounts appropriated for such persons by the Council of the municipality; and Council shall provide for the expenses and accommodations necessary for the work of the Commission.

Section 6. This act shall take effect and be in force January 1, 1916.

Penalties for Fires Due to Negligence

By act of the Pennsylvania Legislature, approved May 6, 1915, applying to second-class cities, it is provided:

"That where a fire originates on the premises occupied by any person, firm or corporation as a result of his or its criminal intent, design or willful negligence, or where said person, firm or corporation has failed to comply with any law or ordinance of said cities or any lawful regulation or requirement of any state or municipal authority enacted or made for the prevention of fire or the spreading thereof, such person, firm or corporation shall, in addition to the present penalties for the punishment of persons convicted of arson or the payment of any fine or penalty for the violation of any law, ordinance or lawful regulation or requirement of any state or municipal authority enacted or made for the prevention of fire or the spreading thereof, be liable in a civil action to said cities for the payment of all costs and expenses of the fire departments of said cities incurred in and about the use of employes, apparatus and materials in the extinguishment of or any attempt to extinguish any fire originating as aforesaid. The amount of such costs and expenses shall be determined by the Director of the Department of Public Safety based upon the wages of the firemen and other officers for the time they were engaged in the extinguishment or the attempt to extinguish such fire; a reasonable amount as rental for the use of the apparatus of said city; and the cost of the water or other materials used in the extinguishment or the attempt to extinguish such fire, with an additional amount of ten per centum on the total amount as aforesaid as supervisory or overhead charges, all of which shall be paid into the city treasury for the use of said cities."



Philadelphia Authorized to Regulate the Location, Size and Use of Buildings

The following act of the Pennsylvania Legislature applies to cities of the first class (Philadelphia):

"That for the purpose of promoting the public health, safety, order and general welfare, cities of the first class may regulate the location, size and use of buildings therein and may make different regulations for different districts thereof. The park commission of any city of the first class may make such regulations as to the location, size and use of buildings any portion of which shall come within two hundred feet of any park, parkway, playground or other public place under its care or management, and upon their approval by the councils of such city said regulations shall have the same effect as if originally made by said councils."

A "Municipal Forests" Act

A recent enactment of the Minnesota Legislature enables cities in that state governed by a charter and having a population of more than 50,000, to maintain municipal forests. By resolution of its governing body a city may accept such donations of land as the governing body deems to be better adapted for the production of timber than for any other purpose, to be managed on forestry principles. The donor of not less than 100 acres of such land is entitled to have it bear his or her name perpetually.

When funds are available or have been levied for such purpose, the governing body is authorized to buy, or obtain by condemnation proceedings, preferably at the sources of streams, any tract of land for a forest which is considered more suitable for such use than for any other, as mentioned above, and which is also conveniently located for such utilization.

The act provides that the selection of all such lands, and their management, shall have the approval of the State Forester. The city in which it is desired to establish such forests is authorized to levy and col-

lect an annual tax of not exceeding five mills on the dollar of its assessed real estate valuation, in addition to all other taxes authorized or permitted by law, to procure and maintain the forests.

* *

Scope for Municipal Activity in Advance of Legislation

To the Editor of THE AMERICAN CITY:

I trust that other town planners will follow the example set by Mr. Charles Mulford Robinson last month in discussing the points raised in my article in the May issue of THE AMERICAN CITY, and I am grateful to you for giving the opportunity of ventilation of this important matter. When you have obtained a number of representative views, I should be glad to be allowed the courtesy of space to make a reply. I trust, however, that those who take part in the discussion will not confine themselves to a mere expression of opinion such as that given by Mr. Bennett, but will set out reasons in support of their views.

THOMAS ADAMS.

Ottawa, Canada, June 23, 1915.

For Local Motion Picture Censorship in New York State

A model ordinance providing for the appointment of a local unsalaried commission of motion picture censorship has been drafted for the Conference of Mayors and Other City Officials of the State of New York. Copies have been distributed to the mayors in New York in the hope that the cities of the state will adopt the ordinance with such changes as are necessary to meet local conditions.

The Conference of Mayors of New York is represented by its secretary on the general committee of the National Board of Censorship of Motion Pictures, which makes it possible for every city in the state to have a voice in the censorship of all motion pictures submitted to the National Board. However, it is said that about five per cent of the pictures exhibited, including the most objectionable films, escape the scrutiny of the National Board. It has been deemed necessary, therefore, for each city to adopt some plan whereby the patrons of its motion picture entertainments may

be protected against the uncensored and undesirable films.

The local commission of censorship provided by the ordinance is authorized to demand that any picture which has not been passed by the National Board of Censorship and which is proposed to be shown in the city, shall be shown to the commission before being publicly exhibited. If the picture is deemed to be improper in any degree, the commission has the authority to prohibit its exhibition either in whole or in part. Upon discovering any violations of the ordinance, the commission is required to report such to the chief of police.

The Conference of Mayors agrees conscientiously to fulfill its obligation in the censorship of the pictures submitted to the National Board, and feels that the coöperation of the cities themselves with the National Board, by the adoption of the proposed ordinance, will make it possible to bring about the elimination of all objectionable films.

A Life Insurance Company Helps Birth Registration

By Louis I. Dublin, Ph. D.

Statistician, Metropolitan Life Insurance Company, New York

THE mailing card system for improving birth registration, recently instituted by the Metropolitan Life Insurance Company, will probably interest the readers of *THE AMERICAN CITY*, especially in connection with the recent article appearing in this publication on "Collecting Birth Returns by Postal Cards," by W. H. B. Remington.

The system adopted by the Metropolitan is leading to more accurate and complete registration of births throughout the country. The company has printed postal cards addressed to the Local Health Officer, the Town Clerk, or the State Registrar of Vital Statistics, dependent upon the local conditions in the states. A sample of these mailing cards is shown herewith. The company's agents, 12,000 in number, distribute these cards in the homes of policy holders where there has been a recent birth, or where there is an expectant mother. She is directed to fill in her name and address and the name and date of birth of her child, and then to mail the card in order to secure the many benefits of official registration for her baby. The form used is as follows:

The Health Officer 191

Dear Sir:

My baby

was born on 191

.....

Please send me your literature on how to keep my baby well.

.....

The receipt of this information should enable the proper official to obtain many records which he might not otherwise procure. Close to 400,000 cards have been distributed to the district offices in virtually every section of the United States and Canada.

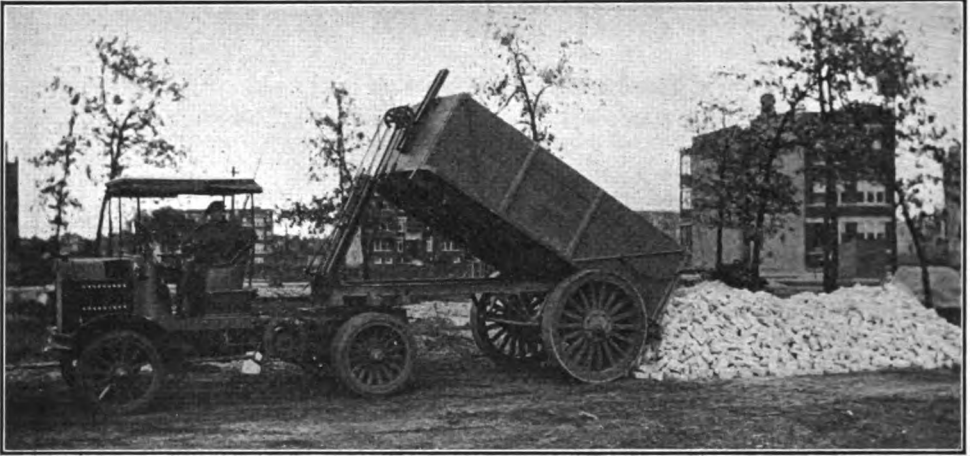
It sometimes happens that children are born without a physician or midwife in attendance. In such cases no record of the birth is sent to the Health Department. Even when there is such attendance, it is altogether too common to neglect sending in a report. This accounts for the fact that in many states which have ample legislation

not more than 50 per cent of the births are recorded. Each agent of the company comes in contact with a considerable number of families of industrial policy holders every week. It is a part of his business to keep in intimate touch with the families of the insured. He knows when a baby arrives, and it is, therefore, an easy matter for him either to fill in the card himself, or to have some member of the family fill it in and mail it. The mother is urged in every case to make sure that her baby has been properly registered and to take no chances.

As an additional inducement to the mother to send the card, a request has been inserted that the Health Officer send literature on child hygiene. In this way a number of cities have been made aware of their woeful lack of facilities for conducting a modern campaign of child hygiene. In those cities where the Health Department has a Visiting Nurse, a card is instrumental in bringing about an early visit when it is most important. The mother thus receives valuable personal instruction and the baby is started well in life.

The plan has already proved itself of considerable assistance to Health Departments; giving them, as it does, at least a partial check on delinquent physicians and midwives, and in recording many cases which would otherwise have escaped official attention. This was brought out very clearly in a recent communication sent us by the Rhode Island State Board of Health. During a single month, forty-five reports of births had been received on our mailing cards. On examination it was found that sixteen had not been previously reported by the physician or midwife in charge. The letter also stated that the system led to more prompt returns than could otherwise be obtained.

It is hoped that the plan adopted by the Metropolitan will in like manner appeal to other life insurance organizations and that in this way the movement for improving the registration of births will receive a great impetus in the near future.



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The Tractor for Municipal and County Paving and Road Building

For the hauling of all kinds of road-building material—crushed rock, sand, gravel, concrete, paving blocks, etc.—the Knox Tractor with one or more trailers makes a combination which cannot be surpassed for tonnage capacity and low ton mile cost.

In a Knox Tractor you have a detachable, interchangeable power plant which can be kept on the job all the time. No waiting while there is loading or unloading to be done.

Any type of trailer may be used—rear or bottom dump, long or short bed, low or high body. *The Knox Tractor hauls them all.*

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1735 McGee Street

Items of Municipal and Civic Progress

Motor Fire Apparatus Purchases

Statistical information secured by THE AMERICAN CITY in regard to automobile apparatus purchased during 1914 for fire department service indicates that the total purchase of such apparatus amounted to about 1,000 pieces. Of this number about 170 were pumping engines, 60 aerial and service trucks, the remainder being made up of chemical trucks, hose trucks and combinations of various kinds. The total cost of the thousand pieces of apparatus is figured in the neighborhood of \$5,000,000.

* *

Commission Government and Municipal Ice for Bridgeport

By a two to one majority, at a special election on June 19, the voters of Bridgeport, Conn., expressed their endorsement of the commission form of government for that city. The plan advocated contemplates a commission of five members, and no city manager. Subsequent elections will be necessary to provide for the appointment of a commission to draft the charter and for its final adoption.

At the same election, by a vote of more than two to one, a bond issue of \$200,000 was authorized for the construction of a municipal ice plant.

* *

Revision of Charter for Richmond

A movement has been started among the citizens of Richmond, Va., and the members of the City Council for a revision of the present charter.

The city now has three bodies—the Board of Aldermen, the Common Council and the Administrative Board. The first acts as a legislative body, the second outlines the city's improvements and the third has them carried out.

There has been considerable dissatisfaction because of the inefficiency of this form of management of the city's affairs, and the citizens are asking the Council to draw up a new charter under which Richmond may be run on a more business-like basis. Meetings to arouse interest in this matter have

been held by nearly every organized body in the city, including the Chamber of Commerce, Business Men's Club, Rotary Club, Engineers' Society, Architects' Association and a large number of civic organizations. The result seems likely to be that the question will be put to a vote at the coming fall election.

* *

Fostering City Beautification Through the Public Schools

The Civic Improvement League of Halifax, Nova Scotia, is pursuing a new method of creating and preserving a regard for city beautification, by issuing a bulletin for distribution among the public school teachers and their teachers from Grade VII up, thus presenting the whole subject in a constructive way. The teachers are asked to take up from time to time, as subjects for short suggestive talks, the various points brought out in the bulletin, to dwell particularly upon pride in promoting and preserving the good appearance of the city, also to ask the pupils to take a special interest in the improvement of the home grounds and to seek the interest of their parents in those matters.

The bulletin endeavors to inspire in the citizens of Halifax a genuine civic pride and gives simple and wholesome advice upon the various phases of home and town beautification, with illustrations of simple planting around the home. It also gives a list of thirteen prizes which have been offered by the League for the best collection of window-boxes, the best yard and garden, best display of sweet peas, etc.

* *

Soft Pedal Week in Philadelphia

Feeling that the citizens might profitably follow Clean-Up Week with a Soft-Pedal Week, the Committee on Unnecessary Noise of the Civic Club of Philadelphia made such a suggestion. The directors of the Departments of Health and of Public Safety approved the idea and endorsed the recommendation of the Civic Club that the owners of steam whistles refrain for one week from blowing them in the early hours of



If You Looked Underneath this City

into the water mains, you would find some clean "as a whistle."
Salt Lake City has had many of her mains cleaned by

The National Method

Dirt lying in water mains as shown above, may breed disease and pollute the drinking water. It's a grave danger to health to leave your mains in such condition.

By the National Method of cleaning water mains, all the dirt can be

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We guarantee to leave your mains as clean as new, removing all dirt and obstructions.

Take some action on this question now. You can't be too careful of the health of your citizens.

National Water Main Cleaning Co. Hudson Terminal Bldg.
NEW YORK

the morning; that the owners of dogs have it on their consciences to prevent their pets from annoying their neighbors with barking; that the owners of cats keep them indoors at night; that the owners of roosters remember that crowing is a shrill and most unpleasant noise, peculiarly trying to those who are ill and sleepless; that young men who are on the streets at night remember that loud talking, singing and whistling are very disturbing to those who are trying to sleep; that street vendors and newsboys see if they cannot make quite as many sales quietly as by shouting and yelling; and that the Rapid Transit Company watch out with especial zeal for flat wheels and use more oil on the axles of their cars. The press gave the subject much space, and every man, woman and child who read the papers during that week learned that the question of useless noise was before the public.

People who had suffered in silence, having been taught to believe that noise is a necessary part of city life and none of it can be abated, took heart and gave voice to their complaints. Two thousand such complaints were received by the Police Department during Soft Pedal Week, while the Board of Health and the Civic Club office received each a goodly number. The complaints against the splutterings and snortings of automobiles and motor cycles came from the best residential districts, but from the tenement districts came pathetic appeals for relief from crowing roosters, barking dogs, and factory bells and whistles.

The Police Department has the authority to check the noise of automobiles and motorcycles, and Director Porter is trying to exercise that authority, but there seems to be no help from the law for the man or woman who is deprived of sleep by a dog, a rooster, a whistle or a bell.

It is felt that these noises should be under the control of the Board of Health. The Philadelphia Board of Health, however, is operating at present under authority granted it when Philadelphia was but a village.

Greater authority based upon the greater needs of the present day is urgently needed. The Civic Club has, therefore, called together a Joint Committee on Unnecessary Noise, with representatives from all the civic associations in the city. This committee will endeavor to get broader power

for the Board of Health in the matter of noise regulation, and will uphold the Police Department in all its efforts to abate the noise nuisance.

✦ ✦

New York's Greatest Opportunity for Effective City Planning

In an address before the Sixth New York City Conference of Charities and Correction on May 26 last, Dr. Delos F. Wilcox gave special emphasis to the fact that the transit system is the all-compelling force to which other plans for city development and civic welfare must adjust themselves. Dr. Wilcox also pointed out that the realization of rapid transit dreams in New York City will be bitter indeed if the city feels itself so burdened by the cost of realizing them that it is unable to reap any benefits except the pleasure of riding back and forth. To quote the concluding section of the paper:

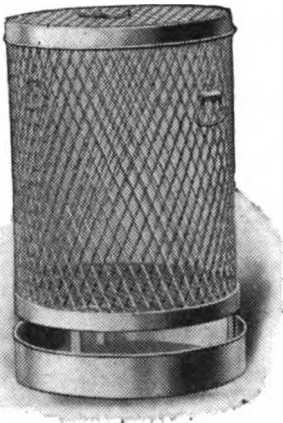
"The main thought I wish to present is that the dual subway system, as a great city planning enterprise, should be supplemented before it is too late, and that while this primary city planning force is being brought into existence we should spare no thought, no effort, no money needed to prepare the city for it. This is the greatest opportunity for effective city planning that New York ever had or ever will have. But it is only an opportunity. It cannot be translated into accomplishment and the enjoyment of work well done unless we are willing to pay attention and loosen the strings of our shriveled purses until the last coin is spent. We cannot turn back mid-stream; we cannot stop until the work is finished. The dual system is not a city plan. It is only the beginning of one. Now, of all times, the curtailment of the necessary expenditures for the building and equipment of schools, for the opening, straightening and widening of streets, for the extension of water mains, for the construction of sewers and for the acquisition of park and playground spaces, would be a civic crime. Now, more than ever, the relaxation of the tenement house law or the curtailment of its scope would be a reproach to the intelligence and public spirit of the city. Now, if ever, is the time to restrict for the public good the selfish and unenlightened initiative of private-minded men who do not yet realize that the ownership or use of property, especially in a great city, is affected with a public interest and is subject to social control. Now, if ever, is the time to take a portion of the increment in land values created by these great improvements which burden the community, and thus help to stabilize investments and render more tractable the speculative spirit of those who forget that the city's welfare demands, not higher rents, but better living conditions.

SANITATION

We show illustrations of our Canco Trash Burner and Canco Fly Trap, two articles to help in the "clean up" campaigns which are spreading over the country.

"CANCO" RUBBISH AND TRASH BURNER

This is practically the only burner on the market that will withstand heat without warping, the body being made from **ONE PIECE OPEN HEARTH SHEET STEEL**.

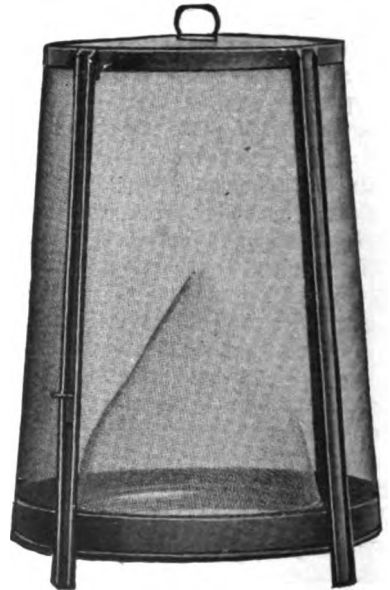


Owing to its peculiar construction it is practically indestructible. All joints of the burner are welded; no rivets to become loose.

Canco Burner is the only burner which has a solid bottom, detachable base or pan. With ordinary burners the ashes are generally scattered around wherever the rubbish is burnt, making an unsightly appearance.

"CANCO" FLY TRAPS

There are some that look like Canco but they are about as similar as a "flivver" car is to a high speed racing car. First of all, the Canco is an **all metal** trap. No wood pieces to warp or rip off. It **must** wear and it'll catch more flies than Mr. Carter has pills. Joints are all electrically welded. It is made on strictly mechanical lines and after a careful study of other makes and their operation.



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KING, LYNDON CLYDE, Ph.D., Assistant Professor of Political Science, University of Pennsylvania.

Lower Living Costs in Cities: A Constructive Programme for Urban Efficiency. (In National Municipal League Series.) 1915. 355 pp. **\$1.62**

The author first discusses how, by improved methods of distribution and by cooperative buying and selling, the people living in cities may reduce the cost of food products. In this connection is given a detailed chapter on municipal markets in America and abroad, also an account of what has been accomplished by consumers' cooperative societies in England. The second part of the volume is devoted to a study of ways for increasing the productive capacity of workers through health-giving recreation, proper housing, and education adapted to the needs of the majority. Progress already made along these lines in various countries is outlined. A chapter entitled "Lower Utility Costs" takes up the question of public control of utilities. The author lays much stress upon the interdependence of city and country and the importance of social cooperation and foresight in reducing living costs under the essentially urban conditions of modern life.

RIEDEL, D., Sc. (London), Public Analyst for the Metropolitan Borough of Chelsea, and

RIEDEL, ERIC K., B.A. (Cambridge), Ph.D. (Bonn).

Water Supplies. (Their Purification, Filtration and Sterilization.) A Handbook for the Use of Local and Municipal Authorities. 1915. 274 pp. Numerous illustrations and tables. **\$2.65**

A summarization of the science and practice of modern water supply and purification. The photographs and references to specific instances are mainly European. Without undue use of technical terms, the authors present a thorough and scientific discussion of their subject, under the following chapter heads: Pure Water—Inorganic Constituents of Natural Waters; Animal and Vegetable Impurities; Sources of Water Supply; Distribution; Storage; Preliminary Purification; Sand Filtration; Mechanical Filtration; Softening of Water; Sterilization; Electrical Modes of Sterilization; Analysis and Interpretation of Results.

VINCENT, H. D., A.M., Principal of School Three, and Supervising Principal in the Evening Schools, Troy, N. Y.

Vocational Arithmetic. (With Lessons in Spelling, Letter Writing and Business Forms.) 1914. 126 pp. **55 cents**

Material derived from the life of the community is here converted into examples in arithmetic. The many topics include automobile and garage business, the Chinese laundry, garbage collecting, road building, school and home gardening, oyster industry, house lighting and heating, motion pictures, and the street cars and autobus. Each lesson contains questions calculated to sharpen the pupil's general thinking powers and to arouse his interest. These are followed by a problem to work out, words for spelling and defining, and business exercises, all relating to the particular subject of the lesson. The book was originally intended for use in night schools. It is also adapted to the highest grammar school grades.

JAUER, DANIEL J., Construction Economist, Editor of *The Contractor*.

The Economics of Contracting. Vol. II. 1915. 334 pp. **\$2.50**

In Vol. II, certain subjects treated but slightly in Vol. I (which appeared about two years ago) have been enlarged upon at the request of readers. Many new subjects have been added. The chapter heads are as follows: Estimating and Bidding Upon Contracts; Making Contracts and Obtaining Bonds; The Financial End of Contracting; Preventing Law Suits and Legal Aspects of Contracts; Planning Construction Jobs; Handling and Training Men; Office Filing Systems; Organization of a Construction Company; Lines of Contracting and Specialization; The Standing of Contractors. By-laws for a construction company are given in the appendix.

BOLTON, REGINALD PELHAM.

The Problem of City Dust. (Reprinted from the Transactions of The American Society of Heating and Ventilating Engineers, 1915.) 7 pp. **10 cents**

MARKHAM, EDWIN, LINDSEY, BENJAMIN B., and CREEL, GEORGE.

Children in Bondage. (A Complete and Careful Presentation of the Anxious Problem of Child Labor—its Causes, its Crimes, and its Cure.) Introduction by Owen R. Lovejoy, Secretary, National Child Labor Committee. 1914. 411 pp. Illustrated. **\$1.50**

Specific conditions are graphically described in chapters dealing with the glass and silk industries, the sweat shop, box and candy factories, tobacco industry, cotton mills, coal mines, the canneries, street trades and messenger service. Subsequent chapters discuss the relation of child labor to crime and disease, its appalling costliness, and its horror from the point of view of the humanities. An account of child-saving agencies and of efforts toward remedial legislation is given. The final chapter deals in detail with the problem of adapting public school education to the demands of industrial life, and with workmen's compensation, widows' pensions, minimum wage, birth registration and other factors having an intimate bearing on the eradication of child labor.

NOLEN, JOHN, City Planner.

Preliminary Report to the City Plan Commission. Bridgeport, Conn. (With Supplementary Material.) January, 1915. Submitted to the Mayor by City Plan Commission March 10, 1915. Quarto. 79 pp. Maps and plans. **25 cents**

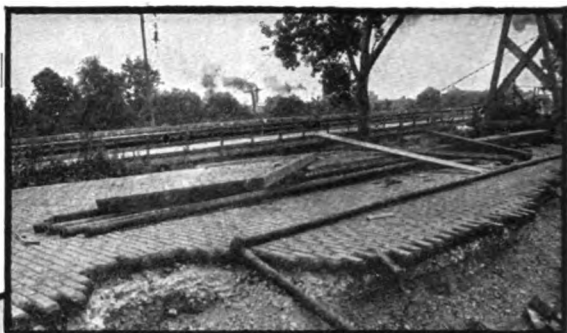
Plans proposed by Mr. Nolen and considered and discussed by the City Plan Commission but not yet approved or disapproved, constitute the material of this report, which is based on social and economic, rather than esthetic, ideals for future development of Bridgeport. Published for the purpose of calling out expressions of public opinion. The supplementary material gives a brief chronological outline of Bridgeport, data relative to traffic, street cars, and food supply; list of industrial plants in Bridgeport; school statistics; park and playground data; figures as to heights of buildings; financial statistics.

UNITED STATES BUREAU OF EDUCATION.

Educational Directory, 1914-15. Bulletin, 1914, No. 43; whole number 617.) 1915. 163 + iv pp. **20 cents**



Showing destruction of Levee Road caused by flood.



Upper illustration shows another section of same road after the flood.

Levee Road at Middletown, O. Brick pavement filled with Barrett's Paving Pitch in 1892.

*Barrett's
PAVING
PITCH*

An Extraordinary Test

Twenty-three years ago this road at Middletown, O., was paved with brick and filled with Barrett's Paving Pitch.

Recently a section of the road was damaged by flood and this gave an opportunity to observe carefully the condition of the Paving Pitch.

It still clung tightly to the bricks that were washed away. Samples of it were taken and found to be in exactly as good condition chemically as when new. In fact, if it were practicable to scrape or melt it off the bricks it could be used over again today

in a new pavement and would undoubtedly give perfect satisfaction for another twenty-three years.

Pitch is wonderful in its absolute immunity to the action of water. It ranks with gold and copper in its resisting power against the elements.

Service considered, it is the least expensive filler known and the easiest to apply. It maintains a perfect seal against the intrusion of water and frost. It eliminates the ancient expansion problem, for it makes every joint an expansion joint.

Booklets free on request. Address our nearest office.

BARRETT MANUFACTURING COMPANY

New York Chicago Philadelphia Boston St. Louis Cleveland Cincinnati
Pittsburgh Detroit Birmingham Kansas City Minneapolis Salt Lake City Seattle

THE PATTERSON MFG. CO., Limited: Montreal Toronto Winnipeg Vancouver St. John, N.B. Halifax, N.S. Sydney, N.S.



GUYOT, YVES, Editor of the *Journal des Economistes*; former Minister of Public Works of France.

Where and Why Public Ownership Has Failed. (Translated from the French by H. F. Baker.) 1914. ix + 459 pp. \$1.63

To give a true picture of industrial enterprise as operated by states and local governments, presenting "a compilation of rigidly investigated, authentic facts and figures regarding public ownership and operation," is the avowed purpose of this volume, which covers financial, administrative, and political and social phases of the subject. Public ownership in reference to railways, gas and electricity, tramways, housing of the working classes, food supplies, alcohol, mines, etc., is discussed with the aid of statistical material, for the purpose of showing what the financial results have been in various countries. The study is then continued from the point of view of service rendered to the consumer, effects on industrial progress, considerations affecting labor, and other social aspects.

BEARD, MARY RITTER.

Woman's Work in Municipalities. (In National Municipal League Series.) 1915. xi + 343 pp. \$1.62

The work of women for the common welfare, in towns both large and small, is here classified and described under the following chapter heads: education; public health; the social evil; recreation; the assimilation of races; housing; social service; corrections; public safety; civic improvement; government and administration. The forces which have drawn most of the women out into these public activities are revealed, and the growth of vision which has accompanied their activity is shown. It is seen that women have contributed a large and intelligent share to movements for civic betterment, and have shown their capacity for sustained and unselfish labor in this connection.

AMERICAN JUDICATURE SOCIETY.

Articles on Municipal Courts. (Bulletin VIII.) April, 1915. 49 pp. Free

Containing "The Branch Court of Conciliation of the Municipal Court of Cleveland," an address by Judge Manuel Levine, with an introduction by John H. Wigmore; and "The Small Claims Branch of the Municipal Court of Chicago," by Herbert Harley.

EVERS, CECIL C., Vice-President of the Lawyers Mortgage Company, New York.

The Commercial Problem in Buildings. 1914. 274 pp. Illustrated. \$1.65

The wide variety of factors that determine the values of buildings in cities is analyzed in this volume. The important part played by the city plan, transportation facilities, regulation of heights of buildings, and social factors, is made apparent. Structural features are discussed, with the aid of many illuminating photographs and plans of value either in building or remodeling. The book will be of particular interest to persons connected with buildings intended for commercial purposes, and as a basis of valuation of improved real estate.

COUSINS, W. S., Editor of *The American Banker-Daily Bond News*.

Complete Sales of Municipal Bonds in the United States for the Year 1914. 1915. Quarto. 67 pp. \$7.00

This volume, compiled from official sources, makes available in simple, convenient shape an enormous amount of information useful to municipal and county authorities, bankers, bond dealers, and others interested in bond sales for public purposes in the United States. The arrangement is alphabetical. There is given the date of issue of the bonds, amount, purpose, length of time for which issued, rate per cent, purchaser, price, and income basis.

UNITED STATES DEPARTMENT OF COMMERCE, BUREAU OF THE CENSUS.

County and Municipal Indebtedness, 1913, 1902 and 1890; and Sinking Fund Assets, 1913. 1915. 228 pp. 25 cents

BURGERSTEIN, LEO, Ph. D., LL. D. (Vienna).

School Hygiene. Translated by Beatrice L. Stevenson and Anna L. von der Osten.) 1915. xix + 188 pp. 43 illustrations and diagrams. \$1.07

The theory that the school should be an active agency in health promotion, and the school curriculum such that children who take part in it shall be better off in health and vigor than those who do not, forms the starting point of this study. The author takes up in detail the location and plan of the schoolhouse, its lighting, ventilation and heating, the classroom and its equipment, other rooms, the school grounds, swimming pools, baths, toilets, and other matters which should be carefully considered in connection with the school building. An important chapter is devoted to the hygiene of instruction, including questions of school hours, number of pupils in classes, order of subjects taught, home work, punishments, vacations, etc. Other chapters are concerned with instruction in hygiene, school diseases and medical inspection of schools, and hygiene of the teaching profession.

MACKAY, CONSTANCE D'ARCY.

How to Produce Children's Plays. 1915. 151 pp. \$1.27

"Every public school a community theatre" is a slogan which expresses the rapidly growing popularity of the movement for child-drama. In answer to the resulting need for books telling just what to do and what not to do in producing children's plays, the present volume has been prepared. It includes a history of the children's play movement, a chapter on its sociological aspects, and suggestions for new fields, as well as chapters on play-producing, scenery, costumes and properties. It discusses the special needs of public schools, social settlements, and camps, and gives lists of plays for such places. There is a bibliography covering the whole child-drama movement.

BOARD OF ALDERMEN OF THE CITY OF NEW YORK.

The Code of Ordinances of the City of New York, Approved March 30, 1915. (No. 168 in Approved Papers for the Week Ending April 3, 1915.) 214 pp. Free

The chapter heads are as follows: General Provisions; Administrative Provisions; Amusements and Exhibitions; Bridges; Building Code; Charities; Corrections; Docks, Ferries and Harbor Control; Electrical Control; Explosives and Hazardous Trades; Firearms; Fires and Fire Prevention; Hospitals; Licenses; Markets; Municipal Civil Service; Parks, Parkways and Park-Streets; Police; Railroads; Sanitary Code; Sewers and Drains; Streets; Traffic Regulations; Water Supply; Weights and Measures; Miscellaneous; Repeal.

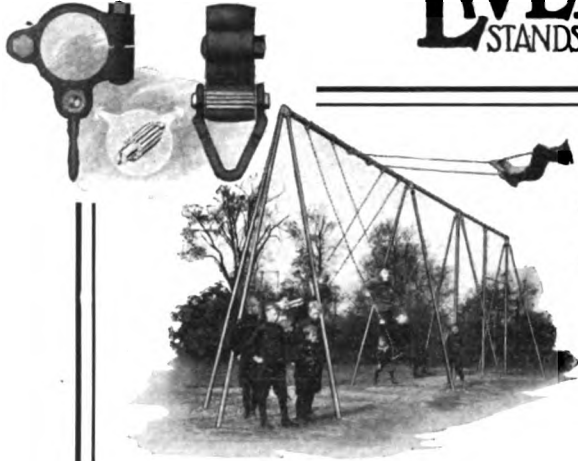
TAFT, WILLIAM HOWARD.

Washington: Its Beginning, Its Growth and Its Future. (Pages 221 to 292, *National Geographic Magazine*, March, 1915.) Copiously illustrated. (Special Number.) 50 cents

The article falls naturally into two parts. Historically President Washington's influence is shown in the choice of the site for the capital city and in the appointment of the Frenchman L'Enfant, whose excellent plans laid the basic principles for the growth of the city. Citing the time when Jefferson supplied L'Enfant with specially prepared plans of twelve leading European cities, the article points out how important was this contribution. The second part of the article deals with recent times. The Civil War left a gap and little was done until Senator James A. McMillan, head of the Senate Committee on the District of Columbia, took up the work. During the twelve years which he devoted to it he gathered around him such men as Burnham, Olmsted, St. Gaudens and McKim, and as a result of their efforts information was obtained and plans made sufficient to guide all future efforts. Excellent photographs, colored maps and plans form a running commentary to the article.

EVERWEAR

STANDS WEAR AND TEAR



Swing as High as You Like

The children are safe on EVERWEAR swings. They are built with an eye single to safety.

An all-steel galvanized product throughout, specially designed for the wear and tear of outdoor use. All detail of bearings, connections, etc., have been worked out to the highest standard of perfection.

Take an X-ray look at the roller bearings by which these swings are mounted. We give you an "inside" view. As the swing sets this in motion, you notice what happens to the clamp? The bearings ROLL—they obviate friction—they increase the enjoyment of the device and prolong the life of EVERWEAR apparatus. This is just one of the so-called "little things" to which we have given careful attention like all the rest.

EVERWEAR swings are equipped with malleable frame fittings and drop forged steel parts for bearings. Built in standard sets of 6, 9, or 12 swings to the Outfit. Special designs built to order.

A full line of the latest and approved playground apparatus shown in Catalog C-3, which will be sent on request.

**The EVERWEAR
MFG. CO.**
Springfield, Ohio



OHIO LEGISLATIVE REFERENCE DEPARTMENT.

Report of the Committee for an Investigation of Finances of Municipalities. (Bulletin of the Ohio Legislative Reference Department.) February 3, 1915. 41 pp. Free

UNIVERSITY OF ILLINOIS, 1913 and 1914 Classes in Civic Design.

Notes for a Study in City Planning in Champaign-Urbana. 1915. 51 pp. Illustrated. 25 cents

THE PUBLIC UTILITIES COMMISSION OF OHIO.

A Uniform Classification of Accounts for Electric Utilities. (Effective January 1, 1915.) 1914. 112 pp. Free

RICE, O. S., State Library Clerk, Compiler.

Wisconsin Memorial Day Annual, 1915. 96 pp. Illustrated. Free

THE CIVIC LEAGUE OF SAINT LOUIS.

Year Book, 1914-1915. February, 1915. 16 pp. Free

Conventions and Exhibitions

ON THE CALENDAR

JULY 21-24.—BERKELEY, CAL.

American Physical Education Association. Secretary, J. H. McCurdy, 93 Westford Avenue, Springfield, Mass.

JULY 27-29.—SAN FRANCISCO, CAL.

United States League of Local Building and Loan Associations. Secretary, H. F. Cellarius, Station A, Cincinnati, Ohio.

JULY 31.—SAN FRANCISCO, CAL.

American Academy of Political and Social Science. Secretary, J. P. Lichtenberger, University of Pennsylvania, Philadelphia, Pa.

AUGUST 2-7.—BERKELEY, CAL.

American Association for the Advancement of Science. Permanent Secretary, L. O. Howard, Smithsonian Institute, Washington, D. C.

AUGUST 3-5.—BERKELEY, CAL.

The American Social Hygiene Association. General Secretary, William Freeman Snow, M. D., 105 East Twenty-second Street, New York City.

AUGUST 10-11.—SAN FRANCISCO, CAL.

National Conference on Race Betterment. Secretary, E. F. Robins, Battle Creek, Mich.

AUGUST 11-14.—SAN FRANCISCO, CAL.

American Economic Association. Secretary, Allyn A. Young, Cornell University, Ithaca, N. Y.

AUGUST 16-28.—OAKLAND, CAL.

National Education Association of the United States. Secretary, Durand W. Springer, Ann Arbor, Mich.

AUGUST 18-20.—SAN FRANCISCO, CAL.

The American Association of Park Superintendents. Secretary, R. W. Cotterill, Seattle, Wash.

AUGUST 24-27.—CINCINNATI, OHIO.

International Association of Municipal Electricians. Secretary, Clarence R. George, Houston, Tex.

AUGUST 31-SEPTEMBER 3.—CINCINNATI, OHIO.

International Association of Fire Engineers. Secretary, James McFall, Roanoke, Va.

SEPTEMBER 7-9.—NEW YORK CITY.

The New England Water-Works Association. Secretary, Willard Kent, Narragansett Pier, R. I.

SEPTEMBER 7-11.—OAKLAND, CAL.

League of California Municipalities. Secretary, H. A. Mason, Pacific Building, San Francisco, Cal.

SEPTEMBER 13-17.—SAN FRANCISCO AND OAKLAND, CAL.

Tri-State Good Roads Association. Good Roads Congress. Secretary, George E. Boos, Medford, Ore. (Meeting to be merged with the Pan-American Road Congress.)

SEPTEMBER 13-16.—ATLANTIC CITY, N. J.

Association of American Portland Cement Manufacturers. Secretary, Percy H. Wilson, Land Title Building, Philadelphia, Pa.

SEPTEMBER 13-17.—OAKLAND, CAL.

Pan-American Road Congress. under joint auspices of American Road Builders' Association and the American Highway Association. Secretary American Road Builders' Association, E. L. Powers, 150 Nassau Street, New York City. Executive Secretary American Highway Association, I. S. Pennybacker, Colorado Building, Washington, D. C.

SEPTEMBER 16-18.—SAN FRANCISCO, CAL.

American Society of Civil Engineers. Annual Convention, Secretary, Charles Warren Hunt, 220 West Fifty-seventh Street, New York City.

SEPTEMBER 20-23.—SEATTLE, WASH.

American Association of Public Accountants. Secretary, A. P. Richardson, 55 Liberty Street, New York City.

SEPTEMBER 20-23.—WASHINGTON, D. C.

Illuminating Engineering Society. Secretary, J. D. Israel, 29 West Thirty-ninth Street, New York City.

SEPTEMBER 20-25.—SAN FRANCISCO, CAL.

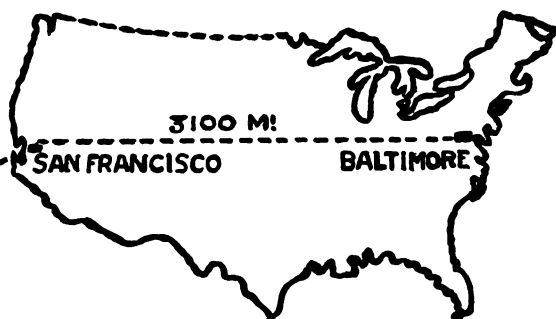
International Engineering Congress. Secretary, W. A. Catell, Foxcroft Building, San Francisco, Cal.

SEPTEMBER 27-29.—ST. LOUIS, MO.

National Association of Commercial Organization Secretaries. Secretary, James A. McKibben, Secretary Chamber of Commerce, Boston, Mass.

MUNICIPAL SHOPPING VIA WIRELESS

HONOLULU



When the city of **Honolulu, T. H.**, decided to register Motor Vehicles, this thriving community searched the world for the "best" possible product at the "best" price.

Naturally, attention was directed to Baltimore, the home of "**BALTO**" **Porcelain Enameled Iron Signs**. In this particular instance **TIME** was at a premium—**Honolulu** talked with us via **WIRELESS**—in "72 hours" this contract was closed and part of Honolulu's order for Automobile and Motorcycle License Tags was **ACTUALLY IN WORK**—that's service.

Service alone did not guarantee this contract—**quality, finish and dependability** were the virtues which first suggested themselves to the officials of this far away city, and these virtues alone have given our product the world-wide distribution it now enjoys. For **quality** and **service** in the development of the most modern and artistic **municipal signs**, we lead.

Sketches, quotations, suggestions and samples are yours for the asking. Write our Service Bureau—

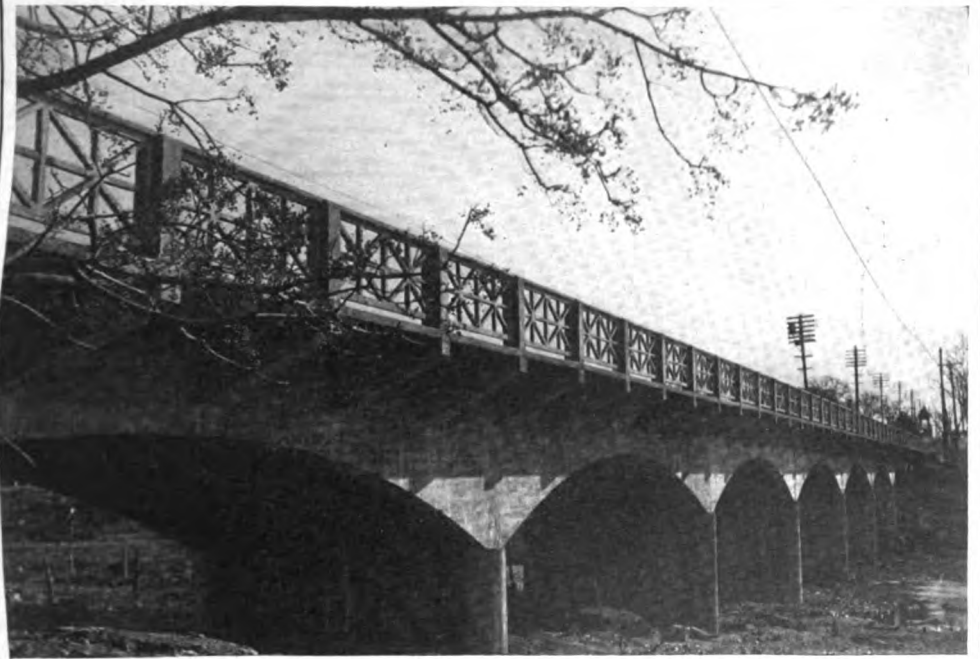
Department C

THE BALTIMORE ENAMEL & NOVELTY CO.

BALTIMORE, MD., U. S. A.

Methods, Materials and Appliances

News from Engineers, Manufacturers and Supply Houses



CONCRETE VIADUCT OVER NOLAN CREEK, BELTON, TEXAS

Steel Sheathing for Concrete Work

The accompanying photograph shows the new viaduct at Belton, Texas, the floor of which is laid with Hy-Rib, manufactured by the Trussed Concrete Steel Company, of Youngstown, Ohio. This viaduct spans Nolan Creek. It is 385 feet long, with an 18-foot driveway and two 5-foot walks, and cost \$17,000. Another view, showing the unfinished floor of the viaduct, is reproduced in the company's "Hy-Rib Handbook," which is now in its thirteenth edition. This book of 144 pages is profusely illustrated with sketches and views which show the construction and use of Hy-Rib for roofs, floors, walls, sidings, partitions, ceilings, furring; for silos, tanks and conduits; and for concrete work without forms.

✦ ✦

The Hurry Call

The Gamewell Company, of Newton Upper Falls, Mass., has published in pamphlet form a list of cities using its police telegraphs. Many letters are included from cities using these police signaling systems, which indicate the value of such service. One of the strongest of these letters is from M. J. Burns, superintendent of

the signal system at police headquarters in Lowell, Mass. It gives a number of instances in which the system has been of value in that city, such as finding lost children; avoiding ringing the fire alarm for small fires; notifying owners of buildings when they are found insecurely closed or broken into; saving life by quick calls for help, and other cases where prompt action is essential.

Another pamphlet, issued by the same company, gives a list of cities, towns and corporations using the Gamewell fire alarm telegraph systems.

✦ ✦

A Record of Tire Users

F. H. Sawyer, Manager Fire Truck Department, The Goodyear Tire & Rubber Company, has just given out figures showing that 52½ per cent of all the fire apparatus delivered during 1914 to cities in the United States and Canada was equipped with Goodyear tires.

At the beginning of 1914 there were 344 cities using Goodyear equipment on fire apparatus. During the year 148 new cities were added to the list, making a total of 492 cities now using these tires. During the year 78 cities that were already on the list specified

LUXSOLITE

Fixtures For Mazda C Lamps

Accessible

Durable

Simple



Complete with Reflector



Complete with Reflector
Showing Globe Lowered

Luxsolite Fixtures have the following distinctive features:

Excellent ventilation, yet weather and insect-proof shells.

Ventilated, skeleton-type lamp sockets.

Hinged globe with a resultant maximum of convenience in replacing lamps.

The use of "Tried-and-Found True" standard arc lamp parts.

A specially designed auto-transformer insuring maximum protection to lamp against surges and against transformer burnout, by the application of Micarta and Bakelite insulation.

The appearance of the fixture is well balanced and symmetrical, with or without reflector.



Complete without
Reflector

Full particulars in Catalogue, Section DS-704.

Westinghouse Electric & Mfg. Co.

Sales Offices in All Large Cities. EAST PITTSBURGH, PA.

them as equipment on renewal orders for fire apparatus.

Sixty-six per cent of this fire truck tire business was in cushion tires. While not as resilient as a pneumatic, the cushion type has the important advantage of not being subject to puncture. The tire equipment on fire chiefs' cars is usually pneumatic, as speed is the quality most desired.

✦ ✦

The Pulmotor at the Bathing Beach

The Pulmotor is doing good service at Redondo Beach in Southern California, where it is part of the equipment carried by the specially-built tri-car used for life-saving. This car is said to have saved more than a life a week during the season of 1914-1915. It has a speed of 60 miles an hour. The side car carries a metal buoy capable of supporting two men in the water, and 1,500 feet of fine wire cable wound on a hand reel, the end of the wire being fastened to the motor cycle. Inside the side-car box is a complete first-aid outfit, of which the Pulmotor is the most important element. This apparatus, sold by The Draeger Oxygen Apparatus Company, of Pittsburgh, Pa., is invaluable in reviving exhausted swimmers.

✦ ✦

A Wagon Cover That Opens in Sections

The wagons used by the Street Cleaning Department of the Board of Public Works of San Francisco are of the 3-yard type, with bottom dump and with the King steel sanitary wagon cover. The patentee of the cover is J. King, with the Moore & Scott Iron Works, of San Francisco. The cover is made so as to open by quarters, one-quarter being opened at a time, thus hiding the contents from passers-by and preventing paper, ashes, etc., from being blown about. Both large and small wagons can be fitted with this cover. The improvement clubs and the Board of Health of the city insisted upon the wagons being covered, and Peter J. Owen, Superintendent of the Department, states that since this type of wagon was adopted there has been no objection made.

An Electric Baler

More than fifty different styles of baling presses are manufactured by Logemann Bros. Company, of Milwaukee, whose electric baler is featured in Bulletin No. 109. This press is powerful, very rapid, is convenient for operating, and comes to the purchaser completely assembled and wired to connect with feed wires. Compression is made with the company's screw toggle lever system, which is claimed to require but one-third the power used by any other method of compressing. A



THE LOGEMANN ELECTRIC BALER

choice of motors is offered to the purchaser, and the electric equipment includes automatic self-starter, automatic electric limit switches and special overload circuit breaker, with all the wiring in conduit. One lever controls the entire operation. The press comes in two styles, one making a bale of from 250 to 300 pounds, measuring 36 x 24 x 24 inches, the other a bale of from 300 to 400 pounds, measuring 42 x 24 x 24 inches. The floor space required is 36 x 40 inches for the smaller and 36 x 46 inches for the larger size.



KING SANITARY WAGON USED BY STREET CLEANING DEPARTMENT, SAN FRANCISCO

We manufacture

High Test—Quick Settling
CHLORIDE OF LIME
For Water Purification

HOOKER ELECTROCHEMICAL CO.

40 Wall St., New York City

Plant: Niagara Falls, N. Y.

The “A. W.” Regulator



**For the control of Series Mazda
Lamps for street lighting. Saves
lamps and gives the highest ef-
ficiency. Furnished in Pole and
Station Type.**

***New Bulletin, containing
Engineering data, now ready***

Send for it

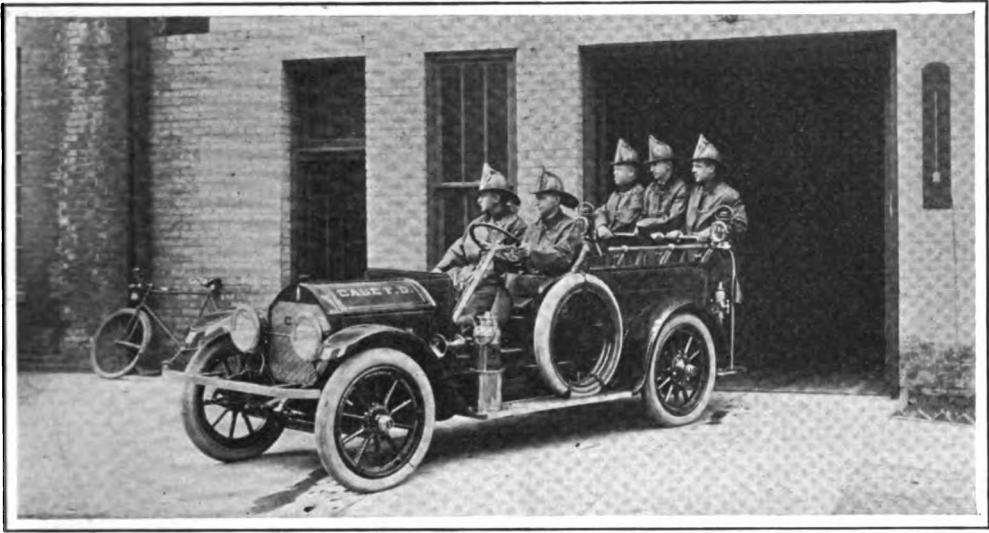
Electric Appliance Co.

**Chicago
New Orleans**

**San Francisco
Dallas**

The Packard Electric Co.

**500 Dana Avenue
Warren, Ohio**



FIRE EQUIPMENT AT THE CASE WORKS, RACINE, WIS.

Fire Protection for a Big Plant

The new motor truck used by the Fire Department of the J. I. Case Threshing Machine Company, of Racine, Wis., is shown in the accompanying picture. For years the company has maintained its own fire department, and the steady, conservative expansion of the business, with its three distinct plants in Racine, necessitates the most rapid facilities for this very vital factor in the protection of the organization. The Motor Works is located at some little distance from the Main and the South Works, and with this new equipment Chief Nelson and his fire-fighters can cover the distance in a very short time. The car is a special body made for the company's "35" chassis.

✦ ✦

A Rumor Corrected

The Dayton Rubber Manufacturing Company, of Dayton, Ohio, has received a letter from William McMullin, Fire Commissioner of Pomona, Cal., dated June 4, 1915, which corrects an erroneous report. Commissioner McMullin says in part:

"With regard to the newspaper and other reports which have been circulated to the effect that our American-La France Type 12 pumping engine, which is equipped with Dayton airless tires, had thrown a tire while en route to a fire on the 10th ult., I am happy to inform you that these statements or reports are entirely without foundation. On the contrary, we have had absolutely no trouble with either the car or any portion of its equipment, either in the way of tires or anything else, and we are happy to be permitted to testify that our car and tires have given us perfect satisfaction to date."

Kalamazoo's Cans

The City Garbage Company of Kalamazoo, Mich., has recently ordered from the Rochester Can Company, of Rochester, N. Y., 6,000 cans. The type selected from the many samples submitted by various manufacturers is 16 inches in diameter at the top and 14 inches in diameter at the bottom, and is 19½ inches high. It has heavy side handles and a deep one-piece cover. This can is perfectly smooth and sanitary on the inside, and frozen garbage can easily be removed from it on account of its flaring shape. The capacity of the can is 15 gallons.

✦ ✦

Removal Notice

Thomas H. Desmond, landscape designer, announces the removal of his office to 36 Pearl Street, Hartford, Conn., and the opening of a studio at Simsbury, Conn. As in the past, Mr. Desmond will serve his clients in all matters pertaining to landscape design, garden architecture, landscape forestry, park, cemetery and town planning.

✦ ✦

The Carbo Way of Setting Poles

The steel poles made by the Carbo Steel Post Company, of Chicago, are designed for electric light, telephone, telegraph, trolley and transmission lines and signal service work. The principle of construction is made clear in a booklet published by the company. The utilization of high carbon steel, the adoption of a form of construction designed especially to resist strain across the line, anchorage beneath the ground by the Carbo base, with earth cushioning at the ground are the principal features of this system. The pole sets direct in the ground, and is anchored securely at the base line, yet gives resiliency and elasticity.



Speed Tires Can Never Be Hard Rubber

It's been proved countless times on heavy fire trucks. The vibration is too great.

The wear and tear on the truck means more in destruction than the tires themselves are worth. So, many truck manufacturers had to gear down their trucks from 25 or 30 miles per hour to only 10 to 15.

But speed is most essential in an efficient fire truck. To cut down the speed because of tires is not necessary.

The Goodyear Cushion Fire Truck Tire was designed for high speed Fire Department service. For speeds not to exceed 35 miles per hour it is without a peer.

The patented undercut sides, slantwise bridges and resilient construction take up the shock, strain and jar.

The anti-skid feature insures safety at high speed and on quick, sharp turns.

Goodyear tires have stood for years the keenest comparison with other tires. Our top place is based on records, not on claims alone.

Last year on 60 per cent of all new equipment, Goodyear tires were used.

For safety, reliability, for economy, we ask you to investigate these Goodyear tires.

GOOD YEAR
AKRON, OHIO
Fire Truck Tires

Tires for Lighter Apparatus

The Goodyear Fortified Tire with the All-Weather Tread is the ideal extra-strength pneumatic tire for lighter equipment. Gives best protection against slippery pavements and rough going. 126 braided piano wires in each tire base mean perfect security. Contains all the famous Goodyear features that prevent rim-cutting, skidding, tread separation and blowouts.

Write today for "Getting to the Fire," a beautifully illustrated book on fire truck tires. Tells how other fire departments have overcome their tire troubles. Address Desk 138. (2410)

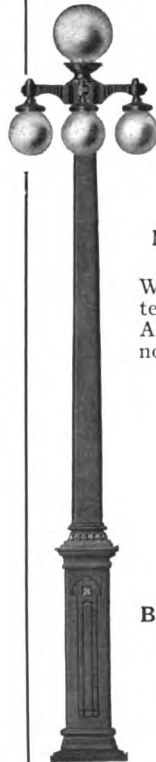
The Goodyear Tire & Rubber Co., Akron, Ohio
Makers of Goodyear Automobile Tires



A fountain in the city square or street intersections, or in the city park, adds to the attractiveness of any city. Our designs are many—at prices to fit any fund.

LAMP POSTS

See our designs, get our prices—the designs are many, the prices right.



MANHOLES, SEWER INLETS GRATINGS

We have the largest variety of patterns, and carry the largest stock. All our castings are made of pig iron, not scrap.



BUBBLE DRINKING FOUNTAIN

For streets and parks.

Write for catalogs

JAMES B. CLOW & SONS
Harrison Street Bridge
Chicago, Ill.

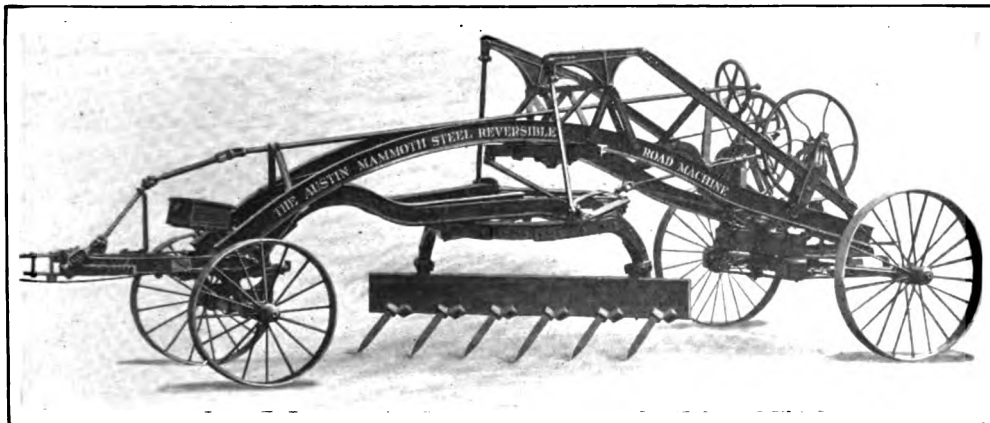
Sales Offices

New York
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For Contractors and Boards of Public Works



THE AUSTIN-WESTERN "ROAD-RIPPER"

Road Machinery for Heavy Work

A new piece of road machinery manufactured by The Austin-Western Road Machinery Company, of Chicago, is herewith illustrated—the "Road-Ripper," which, as well as the "New Western No. 10" grader, is featured in a folder sent out by the company. The Road-Ripper is a massive scarifier attachment, which, when hauled by a traction engine of sufficient power, can tear up old, rutted and raveled roads with stone or gravel surface to the depth required at the rate of from one-half to two miles of road per day. The teeth are of special steel and will penetrate the hardest surface. After the road has been thoroughly scarified, only a small amount of fresh material is required, as the old material has not been damaged. By substituting the regular blade for the scarifier attachment, the grader can be used to crown the road and properly level the new material, making it ready to be rolled. The cost of rebuilding old, worn-out roads in this way is very moderate.

The New Western No. 10 grader is guaranteed absolutely against breakage. No brake pin or other safety device is used. Any part that is broken within a year, for any reason, no matter what power is used, will be replaced free of charge. Heavy Z bars are used on the main frame, and in place of bolts and nuts $\frac{3}{4}$ -inch rivets are used, thereby eliminating lost motion which results from loose parts, and making a smooth, even cut. The blade has an automatic adjustment of 22 inches in either direction, controlled by the position of the stay chains. This brings the cutting point in a more direct line with the draft, places the blade in such a position that its entire length is utilized, and relieves the machine of too great leverage. An 18-inch extension is provided for each end of the blade; with this attachment the machine will cut outside of the wheels a maximum of four feet. The blade-lifting device is powerful and very rapid.

Iron Culverts

An attractive 16-page pamphlet printed in red and green on buff paper has been issued by The Newport Culvert Company, of Newport, Ky. The product of this company is known to the trade as "Genuine open-hearth iron," and is claimed to be of 99.875 per cent purity and to contain not less than 15/100 per cent of copper, for the purpose of resisting rust and corrosion. Culverts, tanks, silos, water and feed troughs are manufactured by this company from the grade of iron indicated. This pamphlet is devoted especially to the presentation of the service afforded by culverts of this material. A number of illustrations are included showing such culverts in shipment and in service. A facsimile order from the United States Office of Public Roads for culverts to be delivered at Alexandria, Va., is given.



An Oregon Road Project

What is said to be the largest country road contract ever let in America has recently been executed under award made by the Commissioners of Multnomah County, Oregon, which includes and surrounds the city of Portland. Forty miles of this work is to be hard surfaced with Warrenite over old macadam roads, and 34 miles is to be Warrenite surface on concrete foundation. All of this work is to be done under the license and patents of Warren Bros. Company, Boston.

The project for improvement on a large scale began nearly two years ago, when, at a conference meeting of the most prominent taxpayers of the city of Portland and Multnomah County, John B. Yeon and S. Benson were urged to accept the positions of roadmaster and deputy roadmaster, respectively. They have since devoted nearly their entire time to investigation of the road problem, including roads of all types throughout the United States and Canada.

Help To Make Your City Beautiful

CYCLONE-WAUKEGAN SANITARY FENCE

Abolish Disease-Breeding Conditions

In hundreds of cities and towns Cyclone Sanitary Fence has received the unqualified approval of health and civic improvement authorities.

Experience has shown that one Cyclone Fence in a block leads to others and starts a general clean-up movement that is permanent and beautifying, because Cyclone Fence is a standing protest against disease-breeding conditions—opens the alleys and backyards to easy inspection, to sunshine and fresh air.

Cyclone Sanitary Fence is substantially built of heavily galvanized wire, closely and firmly woven. It is easy to erect on wooden or iron posts and adjusts itself to uneven ground. It is economical—cheaper than wood, for it lasts many years without decay or repairs. We build it in various ornamental designs of our own to suit our customers. Handsomely Illustrated Catalog Free on request.

CYCLONE FENCE CO., Dept. 107 Waukegan, Ill.



We maintain an Engineering Department whose service is at your disposal free of cost. Write us about your fence problems and we will be pleased to aid you with expert suggestions.



IRON FENCES

There's an iron fence in New York that was erected in time of King George III. After 150 years it's as solid as ever.

If right materials and workmanship are used, iron fences and gateways have an everlasting lastingness. It's the kind we build. Is it the kind you want to buy?

We will design one especially for you. Send for catalog and prices.

ENTERPRISE IRON WORKS

2445 Yandes St., Indianapolis, Ind.



The Coleman Boulevard Lamp

Makes and Burns its Own Gas from Gasoline or Kerosene

It is made of cast iron, copper and brass. Will not rust out. Stands 12 feet high. Is storm proof and bug proof.

It gives a strong, white light and throws it down on the street and sidewalk where it is wanted and not up among the tree tops.

Giving 1000 candle power, midnight service costs 3 cents per lamp per night. All night service 5 cents per night. In competitive tests we have never failed to show the lowest operating cost of any gasoline or electric light made.

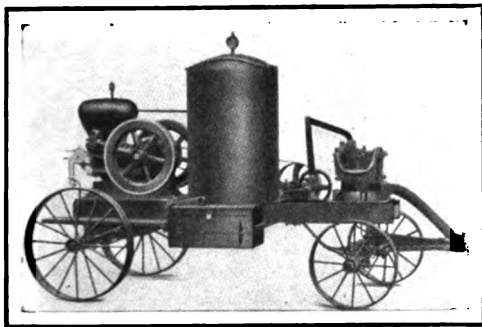
It is lighted and turned on from the ground in less than a minute. It is thoroughly practical and the extra "gas producer" insures against failure. Also made to give 300 candle power.

Write nearest house.

The Coleman Lamp Co.
Wichita, Kansas
Toledo, Ohio
St. Paul, Minn.
Dallas, Tex.

An Ingenious Machine

In the laying of the new water main to Scarborough on the Saco Road near Portland, Me., a "three-in-one" machine, made by the Water Works Equipment Company, of New York, has been doing good service. This is a compressed air contrivance with a gasoline engine. The



PORTABLE AIR COMPRESSOR WITH DIAPHRAGM PUMP ATTACHMENT

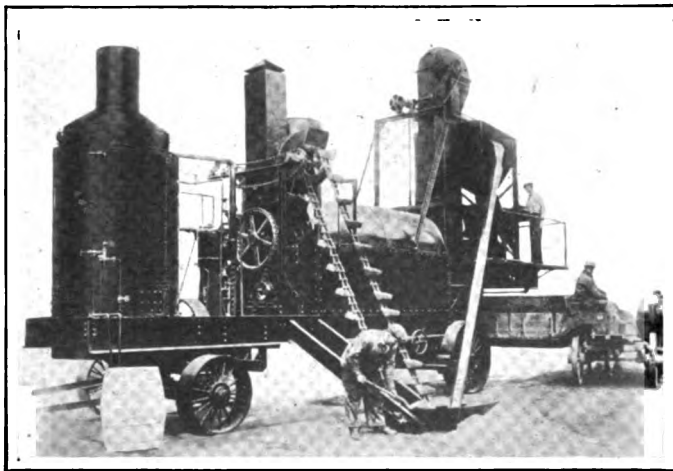
drill part of it is used in smashing small boulders. If there is water in the trenches the gasoline engine is used for pumping. The machine also has an arrangement used for caulking the joints of the water pipes. A handsome quarto catalogue describes this and many other products of the company. The "Senior" portable air compressor referred to combines as a unit the engine and the compressor. They are mounted on the same base and driven by one crank-shaft, giving the same speed and power to the compressor as to the engine, and thus forming a light, compact power plant. By means of the piston discharge valve the valve space behind the air piston is reduced to a minimum, increasing efficiency and capacity about 15 per cent. The engine is hopper-water cooled, and is equipped with a magneto-dynamo. The gasoline supply tank is in the cast-iron base. The engine is 5-horsepower, and the compressor $4\frac{1}{2} \times 6$ inches, delivering about 23 cubic feet of free air per minute. It can be mounted on either hand or horse-drawn trucks, with or without diaphragm pump attachment. Some of the other uses of this outfit are rock excavation for trench work, riveting on structural steel, stone carving, drilling concrete and other materials, operating sand blast, testing gas and water pipes, trimming paving blocks, etc. In the work of pneumatic caulking the machine has proven a time- and money-saver.

New Portable Asphalt Mixing Plant

A portable asphalt mixing plant having a number of distinctive features has recently been put on the market by the Iroquois Works of The Barber Asphalt Paving Company, Buffalo. It has a minimum capacity of 800 square yards of 2-inch sheet asphalt topping per day of 10 hours; the capacity for asphaltic concrete, Topeka mix, or asphalt macadam is much larger.

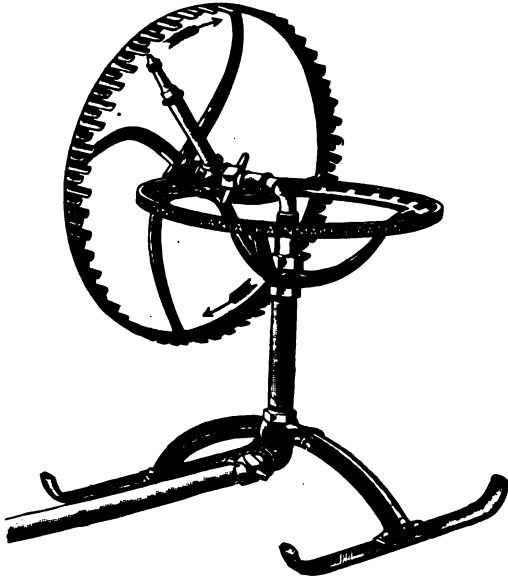
The mixing platform of the plant is so placed that a wagon can be driven under it to receive the load from the mixer without elevating the plant on its wheels or excavating for this purpose. The platform is arranged for one-man operation, the levers for controlling clutches and plant being within easy reach. The mixer is a two-shaft, pugmill type, with removable side and end liners, provided with two full sets of blades, the binder blades being solid manganese. The sand-measuring box and asphalt bucket are supported on scales. A drying drum of special construction has been designed for this plant to obviate the difficulties so often encountered in heating a sufficient amount of sand and stone. Features that count in the economical upkeep of such plants as this are the removable steel wearing plates in the material chutes and chilled rims for all chain sprockets.

As illustrated, the plant would be operated as two units, the second unit being the asphalt kettle. The mixing plant is also supplied, however, without boiler and engine. In other words, the contractor or municipality already provided with portable boiler, engine and kettles, can secure the mixing plant without making an additional investment for these units.

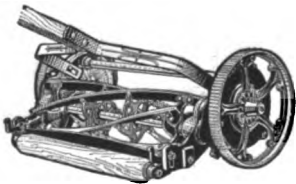


THE BARBER PORTABLE ASPHALT MIXING PLANT

The plant is designed especially to meet the requirements of contractors and municipalities having new construction and maintenance work to perform in scattered territory, or in an amount insufficient to make a stationary plant economical.



WHY let your lawns burn out
when you can practically
substitute ideal rainfall with the
“Pennsylvania”
“Rainmaker” (Improved
1915 Model)



YOU know the high efficiency of the
“PENNSYLVANIA Quality Lawn
Mowers” with all the blades of oil-
hardened and water-tempered crucible
tool steel.

The line—

“Pennsylvania”
“Great American”
“Continental”
“Keystone”

“New Departure”
“Golf”
Horse and Power
and Others.

Waters evenly an area of 300 to
500 square yards without injuring
the lawn in any way.

The improved 1915 Model works on a 25-lb.
pressure and upwards. Attachable to any
size hose. Turbine principle. Height, 29
in.; width, 27 in.; shipping weight, 52 lbs.

If you have the care of a large lawn,
public park, golf links or tennis courts,
you can arrange for a week's trial. Write
today for catalog.

“The Pennsylvania People”

Supplee-Biddle Hardware Company
PHILADELPHIA, PENNSYLVANIA

Analyzing Paving and Road Compounds

The Dulin Rotarex is a centrifugal machine designed for extracting bituminous aggregates, and is especially adapted for analyzing paving and road compounds, such as bitulithic, macadam and ordinary surface mixtures. A simple speed-changing switch on the base accommodates the machine to various mixtures.



THE DULIN ROTAREX

This little machine does in a few minutes the work that required several hours with older methods. It is stated to have been proven that an inexperienced operator can do the work of three and one-half hours in six minutes. Samples can be taken from mixers or wagons and their constitution determined before dumping and without delaying the work; hence exact information can be obtained at every step, proportions checked, weighings verified, etc., without loss of time or the risk of faulty work. The states of New York, Pennsylvania, Maryland, West Virginia and New Jersey and many of the largest cities make extensive use of the machine.

The Rotarex is small and can be easily carried from place to place. It is driven by a Westinghouse electric high-speed motor which will operate on any lighting circuit. It is manufactured by the Braun Corporation, Los Angeles, Cal.

✦ ✦

The Destruction of Refuse

The sanitary disposal of municipal, institutional and industrial waste is the subject of a booklet issued by the Jarvis-Morse Corporation, of New York, which has taken over the patents and business of William F. Morse for the design and installation of destructor furnaces. A modified form of the British destructor type has been developed, combining the essential principles of the high temperature destructor and obtaining the necessary forced draft by simple and efficient

means. These destructors range in capacity from 30 tons per day upward. They are operated either by steam or electric power. Detailed descriptions of the construction and working of these furnaces are given, together with explanations of their adaptation to various special installations, such as provide for the recovery of valuable parts of the rubbish. A Morse destructor for disposing of the bodies of small animals is a part of the equipment of the Animal Rescue League of Boston. Others have been installed for the disposal of sewage sludge, for the destruction of refuse paper from financial institutions, and of large and small quantities of domestic garbage and refuse, for waste from markets, canning factories, etc. Municipalities and others wishing to get estimates and designs for the particular type of furnace suited to the local needs should give some approximate idea of the quantities to be dealt with, the composition as regards the proportion of garbage to rubbish, the location, and whether the plant is to be for the disposal only or to develop steam power.

✦ ✦

Pull Your Load, Don't Carry It!

Book Two on "Troy Truck Trailers," issued by The Troy Wagon Works Company, of Troy, Ohio, is a clever little pamphlet of twenty pages, embellished with sketches and views showing the construction of these trailers and the labor they perform. The descriptive matter emphasizes "the unsuspected power" of a motor truck, which is embodied in the principle of draw-bar pull: for example, a 3-ton truck, fully loaded, can still exert a draw-bar pull of about 3,000 pounds—a fact which illustrates the money value of this principle. Detailed information is given showing the extent to which the use of properly constructed trailers increases truck efficiency, and a collection of "Short Sentences from Satisfied Users" adds to this testimony. The essential construction of a good trailer is analyzed, and specifications of several models of Troy design are given. It is shown that costs may be reduced "two ways at once" by employing several trailers at one time and keeping one or more traveling with the truck, one or more being loaded and the others being unloaded. On long trips the loading and unloading time becomes almost negligible, but the hauling capacity is then of prime importance and the value of the trailer is apparent.

✦ ✦

Lectures on Municipal Wastes Disposal

Mr. Gustave R. Tuska, M. Am. Soc. C. E., M. Am. Soc. M. E., consulting engineer, New York City, has been appointed lecturer on Municipal Wastes Disposal at Columbia University, and will deliver a course of lectures on this subject at the university during the coming year. Mr. Tuska has for some years been acting as consulting engineer to various garbage, refuse and waste disposal plants both in this country and abroad.

"A Natural Dust Layer"



Ashburnham, Mass.

The Hot July Sun Will Not Dry Out a "Solvay" Road

Solvay Calcium Chloride has the peculiar and important property of absorbing moisture from the air. A Solvay Road stands the hot rays of the July sun, because it automatically renews its supply of moisture between every sun-down and sun-up.

SOLVAY Granulated Calcium Chloride

is a clean, white chemical salt, which readily dissolves when exposed to air. Applied to a road, it is soon incorporated with the surface, keeping it smooth, slightly damp, and in a compact condition.

Under ordinary traffic one application of Solvay lasts about six weeks. Cleanly to handle, easy to apply—and proven by test to be a most satisfactory and economical dust-layer and road-binder. It is shipped in air-tight steel drums ready to use.

Send for a free copy of the "Solvay Road Book." It gives valuable information. Splendid opportunity for local agents.

SEMET-SOLVAY CO.
410 Milton Avenue. SOLVAY, N. Y.

Sectional Construction With Interchangeable Parts Means Low Maintenance Costs



A damaged standard ordinarily calls for a new standard. But when a heavy d r a y, carelessly handled, crashes its terrific weight into a

UNION METAL Lamp Standard

it doesn't mean a broken standard (possibly a broken head to the passerby) — it means merely a bent shaft — easily and inexpensively replaced in perfect union with the old fixture and base. That's economy (and safety). Write for photos and data.

Design No. 1471-C—Patented
Equipped with Holophane Glass
Unit No. 08200

THE UNION METAL MANUFACTURING CO.

CANTON, OHIO

Canadian Union Metal Limited
Galt, Ont., Canada

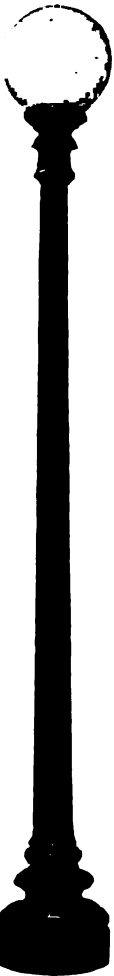
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High Efficiency in Street Lighting

The Type C Mazda Lamp has brought ornamental street lighting within the reach of every city.

The installation cost is far lower than the cluster system, as is also the maintenance cost.



CUTTER Standards

are built for all kinds of lighting purposes — high efficiency mazda lighting, cluster lighting for display effects, etc.

Years ago, we began turning out lighting fixtures that represented the highest type of production. For twenty-five years those who have purchased Cutter fixtures have been receiving Service plus Quality, plus Workmanship.

Your city, too, will receive just as good service. Consult our Engineering Department regarding plans, costs and installation of a lighting system. They will be glad to aid you without charge.

Write now for our catalogue No. 13, showing our many designs of standards in cluster and single-light styles.

Geo. Cutter Co.

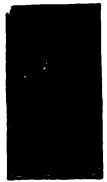
413 Notre Dame Street
South Bend, Ind.

Alba

For Good Light

in home, office, street —almost any place where you want the light softened without waste and where beautiful effects are desired.

**Macbeth-Evans
Glass Company
Pittsburgh**



A High Candle-Power Single Light

A standard like this offers a very economical method of lighting streets efficiently. The initial cost is low as is also the maintenance cost.

This standard is free from excessive embellishment, thereby heightening the decorative and imposing lamp design.

The old style swinging arc lamp is being rapidly displaced by such designs as these. The first installation in New Haven, Conn. has been followed by Baltimore, Rochester, Cincinnati and other large cities.

Our new catalogue will show you many designs. Write for it today.

**The
Casey-Hedges Co.**
Chattanooga, Tenn.



Make Your Dollar Produce More in a New York City Hotel

\$2.50
PER DAY

A pleasant room with private bath, facing large, open court.
(Not one room, but one hundred of them.)

An excellent room with private bath, facing street, Southern exposure.
(Not one room, but eighty-seven of them.)

\$3.00
PER DAY

Also attractive Room without Bath — for **\$1.50 Per Day** The restaurant prices are most moderate.



LOCATION

One minute from five of the largest department stores.
Five minutes' walk from 19 principal theatres.
Within a block of the Fifth Avenue shopping district.
Every line of transportation passes the door.
Fifth Avenue Bus lines and principal surface lines.
The Hudson Tubes across the street.
Elevated Railroad Station across the street.
Subway Station three minutes away.
Grand Central Station within seven minutes.
Pennsylvania Railroad Station just one block away.

For convenience one could ask no more.

THE HOTEL

600 Rooms

A FIVE MILLION DOLLAR HOTEL. EQUIPPED
TO SATISFY THE MOST EXACTING TASTE
EVERYTHING NEW AND MODERN

400 Baths

ALL BAGGAGE TRANSFERRED FREE TO AND FROM
PENNSYLVANIA STATION

THE HOTEL MARTINIQUE

on Broadway, 32nd to 33rd Streets

NEW YORK

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General Manager

WALTER S. GILSON
Vice-President



We Save You
the cost of underground
construction.
the cost of extra lamp
standards.
the expense of high
maintenance costs.

Save ½ the Cost of a New White Way

The cost of installing new standards in your city may be prohibitive.

However, your street railway company must have trolley poles on which to hang their wires. Why not, then, get them to co-operate with you in securing

ELRECO Combination Poles

—which will give you a white way as fine as any city at a much lower expense.

Wooden poles are an eyesore. ELRECO poles are an improvement and will last much longer.

Put in the Mazda Type "C" Lamp and you will have brighter business streets at a low maintenance expense.

We have placed ELRECO poles in Pittsburgh, Niagara Falls, Milwaukee and other cities. Let us send you our catalogue "D" showing our complete line.

Electric Railway Equipment Co.
New York Office
39 Church Street
Cincinnati, Ohio

Sun Gasolabra Street Lighting

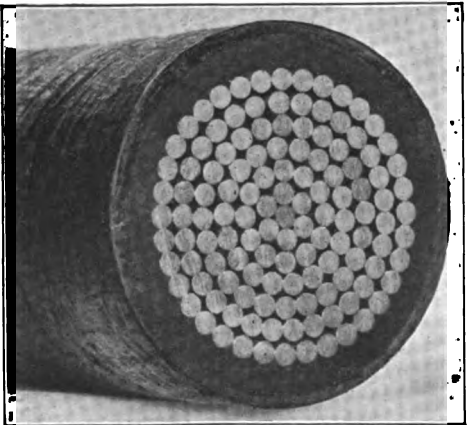
To save money in installing ornamental street lighting systems, municipalities should require prices on Standards delivered f.o.b., city, and also prices for making the installation separately.



Up-to-Date Municipalities or Engineers should write at once before installing any ornamental cluster systems to

**The Sun
Street Lighting Co.**

1501 Market Street
CANTON, OHIO



VISITORS WELCOME

Our plant is open to visitors at all times during working hours, excepting Saturdays. All processes will be cheerfully and carefully explained by competent guides.

Parties from schools, colleges and societies particularly welcome.

SIMPLEX WIRE & CABLE CO.

Manufacturers
201 Devonshire St., Boston
Chicago San Francisco

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THE AMERICAN CITY

MOTT LAMP POSTS



FAMOUS BOARDWALK, ATLANTIC CITY, LIGHTED WITH MOTT LAMP POSTS

WRITE FOR CATALOGUES AND PRICE LISTS
OVER ONE THOUSAND DESIGNS

FOUNTAINS

DISPLAY
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FOR
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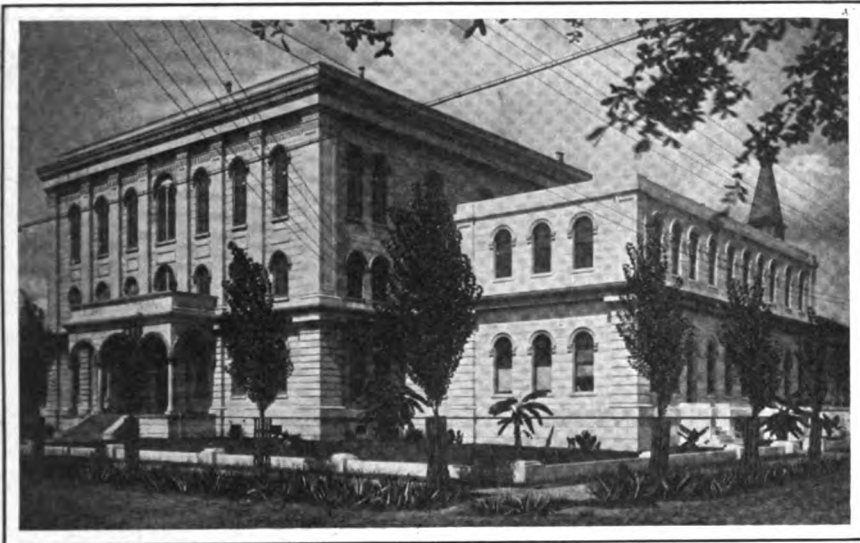
RAILINGS

STREET
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FOUNTAIN IN BEDFORD AVE., BROOKLYN, N.Y.

THE J. L. MOTT IRON WORKS

FIFTH AVENUE AND SEVENTEENTH STREET
NEW YORK CITY



An Attractive Corner —except for the Weeds

Here is a beautiful building, with its surroundings most attractive.

Yet—just beyond the sidewalk in the gutters of the streets, what do we see? **Weeds!**

Weeds always spring up where they are not wanted. They actually seem to enjoy making a beautiful scene unsightly.

They also delight in having you spend money digging them out. Just as soon as you have finished, they laugh to themselves, then start growing again. Within a few weeks, they are there to greet you morning, noon and night.

But it is not so hard to get rid of weeds **scientifically**.

Instead of weeding three, four or even five times a year, apply **Atlas "A" Weed Killer** once, and Mister Weed

can't grow again that season. Absolutely dead to this world. Not a bit of regrowth will occur.

Next season, should the weeds grow again, 50 per cent. less application will make your streets permanently free of all weeds. There will be no unsightly streets to mar the beautiful buildings of your city.

Civic Clubs, Boards of Trade, and as well, all others interested in civic beauty, urge that Atlas "A" Method be used in freeing your streets of weeds. Consult us for advice.

**Use this
Coupon
—today**

Please
send us
data on How
to Eliminate
Weeds by the
Atlas "A" Method.

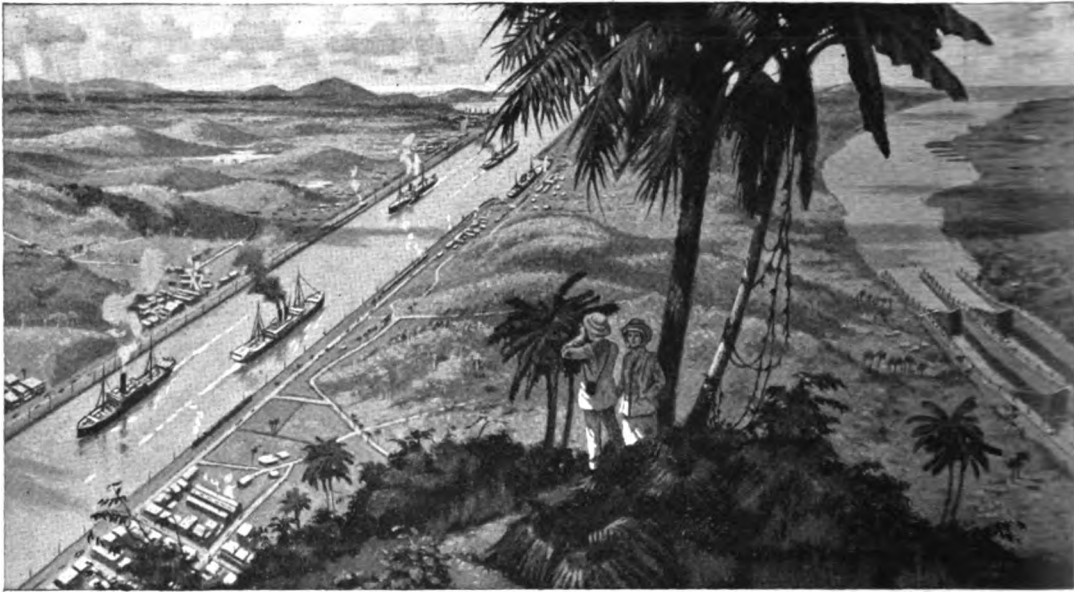
Name

Position

Address

Date

Atlas Preservative Co.
of America
95 Liberty St., New York



The Price of Progress

THE Panama Canal stands as one of the most marvelous achievements of the age. Into its construction went not only the highest engineering skill, but the best business brains of the nation, backed by hundreds of millions of dollars.

Suppose conditions not to be foreseen made it necessary to replace the present canal with a new and larger waterway of the sea-level type, to be built in the next ten years.

Also suppose that this new canal would be the means of a great saving in time and money to the canal-using public, because of the rapid progress in canal engineering.

This sounds improbable; yet it illustrates exactly what has happened in the development of the telephone, and what certainly will happen again.

Increasing demands upon the

telephone system, calling for more extended and better service, forced removal of every part of the plant not equal to these demands. Switchboards, cables, wires and the telephone instrument itself were changed time and again, as fast as the advancing art of the telephone could improve them.

It was practical to do all this because it greatly increased the capacity of the plant, reduced service rates and added subscribers by the hundred thousand.

In ten years, the telephone plant of the Bell System has been rebuilt and renewed, piece by piece, at an expense exceeding the cost of the Canal.

Thus the Bell System is kept at the highest point of efficiency, always apace with the telephone requirements of the public. And the usefulness of the telephone has been extended to all the people.



**AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES**

One Policy

One System

Digitized by **Universal Service**



Combination Fountains

The above design shows a combination cast iron drinking fountain which includes a bubbling head, dog basin and self-closing faucet for drawing water.

This is only one of many designs shown in our catalogue.

You can certainly make some kind of selection from our catalogue, which shows styles for faucets, single bubbling fountains, school fountains, park and boulevard fountains, etc. Write for a copy today.

RUNDLE-SPENCE MFG. CO.
Milwaukee, Wis.

An ALPHA Road



Sugar Notch Road
near Wilkes-Barre, Pa.
built with ALPHA Portland Cement

Build with good sand, gravel or crushed stone and ALPHA Portland Cement and you will have roads, pavements, driveways and walks as near wear-proof as possible.

ALPHA was used in the new roads of Central Park, New York, and in many other notable park and municipal jobs.

The ALPHA brand stands for 24 years' experience in cement making and for the highest grade of raw materials, exact proportioning, thorough burning, and fine grinding. Every sack is guaranteed to more than meet all standard tests.

Send for the ALPHA Book No. 2.

**ALPHA PORTLAND CEMENT
COMPANY**
General Offices: Easton, Pa.

Specify ALPHA and be SURE

HAVE YOU BOOK "DS"
WHICH SHOWS WHAT HAS BEEN DONE WITH

ORANGEBURG FIBRE CONDUIT



In connection with ornamental street lighting systems?

It contains pictures and drawings of installations and valuable data. Shall we send a copy?

THE FIBRE CONDUIT COMPANY
ORANGEBURG, N. Y.

NEW YORK
BOSTON

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Spraying Economy



FITZHENRY-GUPTILL CO.,

Power Sprayers and Equipment

49 N. Washington St.,
Boston

135 First Street,
E. Cambridge



A City Official

writing us recently says among other things: "Your

'Genuine Open Hearth Iron' Culverts

are certainly well adapted to city use as they can be laid nearer the surface of our streets than other types of culvert and are much easier installed than the pipes that come in short sections."

A Pure Iron-Copper Alloy Sheet with a heavy spelter coat makes an ideal material for culvert construction. And that's what our culverts are made of.

They are practically permanent. Let us send you our booklet and prices.

The **NEWPORT CULVERT CO. INC.**
NEWPORT, KY.

Toy's All Steel Lawn Chairs and Settees

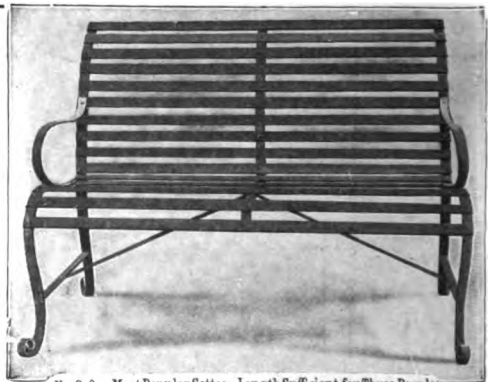
DESIGNED ESPECIALLY for public parks and play grounds where a COMFORTABLE and ATTRACTIVE seat is desired that will stand hard usage. Made of the very best channel and flat steel, strongly braced and riveted, and is practically indestructible.

This is our very latest design, all sharp corners and angles being eliminated, and is built with a high, comfortable back to conform to the natural position of the body while in a sitting position. Each chair is nicely finished in dark green, lending itself to the attractiveness of the park or grounds.

Sold under our positive guarantee.

For further information and prices address

W. M. TOY & CO., Sidney, Ohio



No. 3, Our Most Popular Settee. Length Sufficient for Three People



Buckeye Broadcast Fertilizer Sowers

**Absolutely Guaranteed to Sow
Granulated Calcium Chloride**

Ground Sheep Manure, Lime and all brands of Commercial Fertilizers. Send for Prices and Catalogue.

The American Seeding-Machine Co., Inc., Springfield O.

FLY CAMPAIGNS.

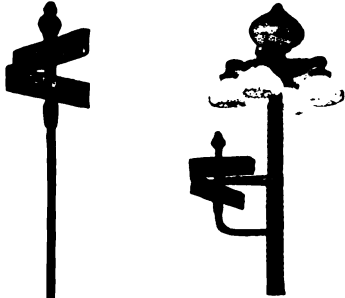
Lantern Slides and Exhibits For Sale and to Rent. Also Slides on Mosquitoes, Clean-Up Week and other subjects. List of slides for 2 cents in Stamps.

EDUCATIONAL EXHIBITION CO.

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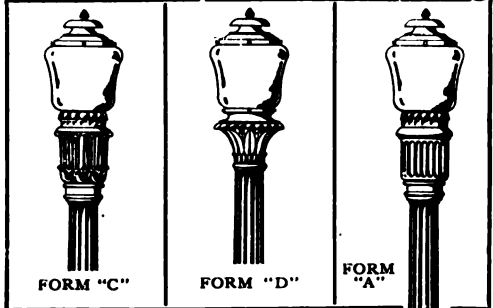
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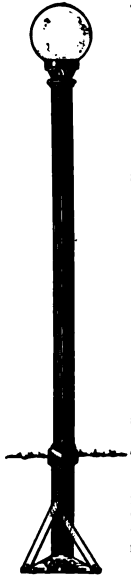
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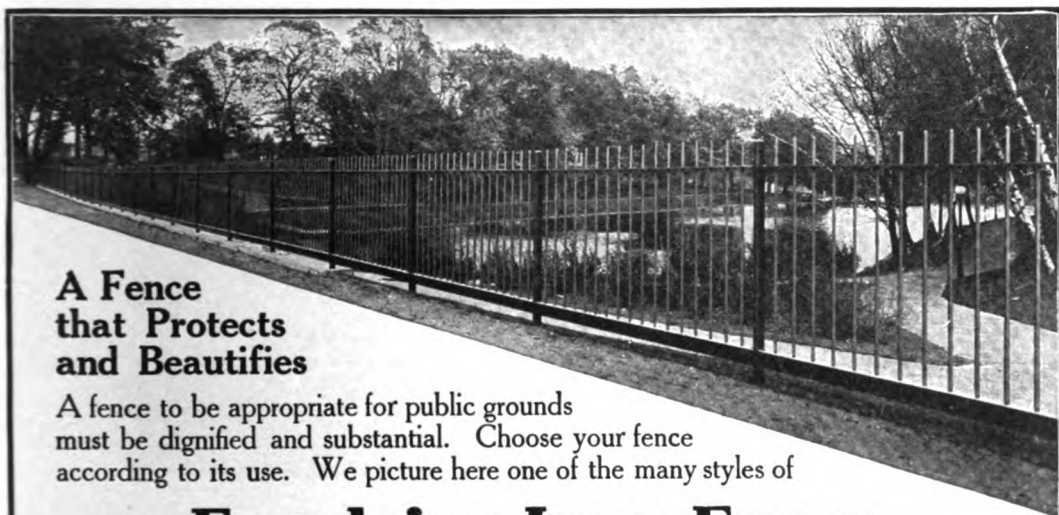
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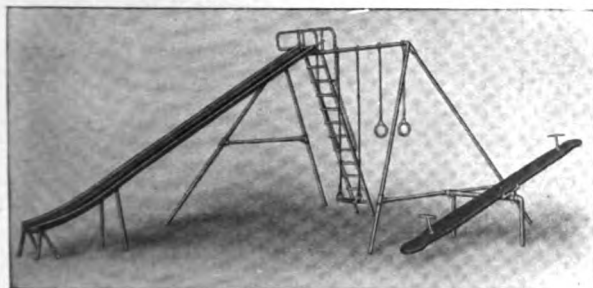
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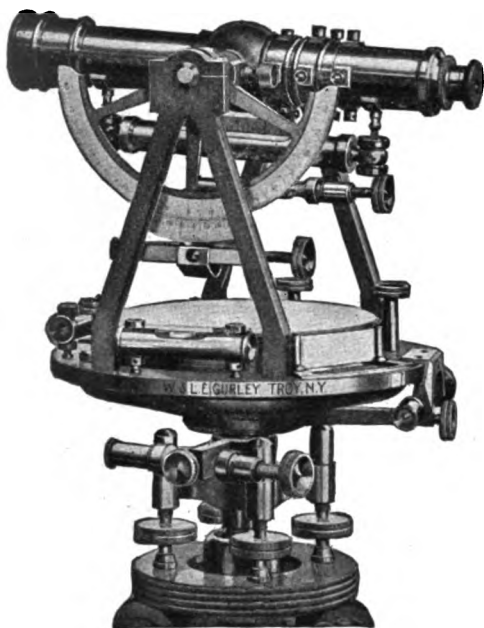
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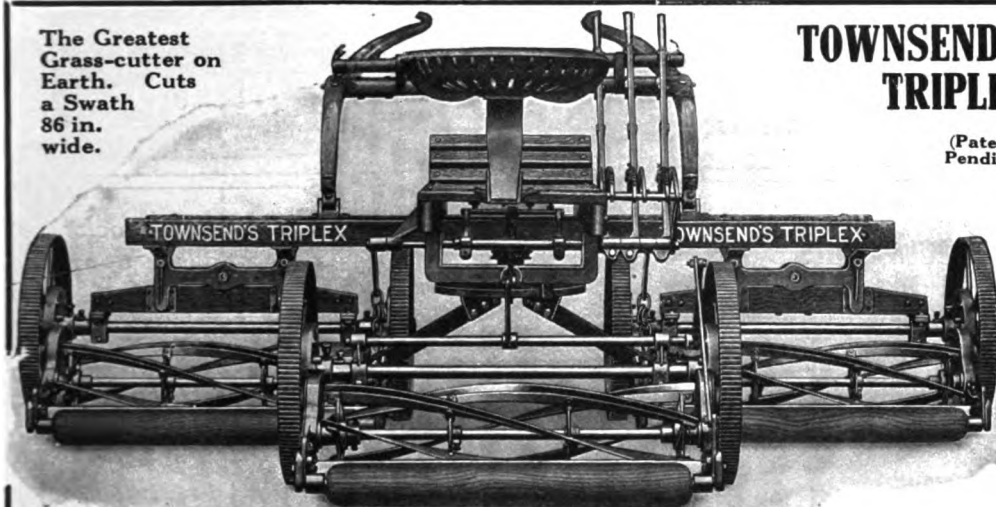
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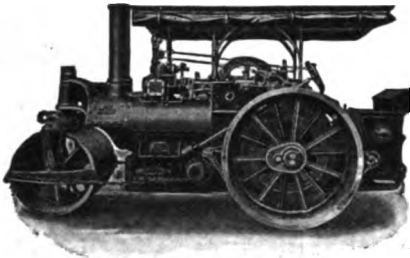


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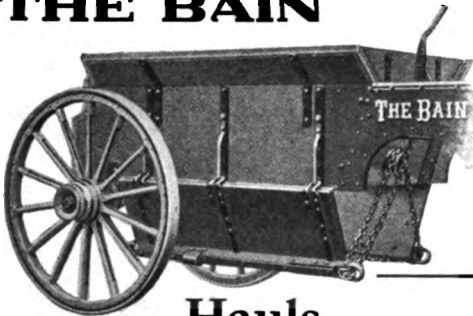
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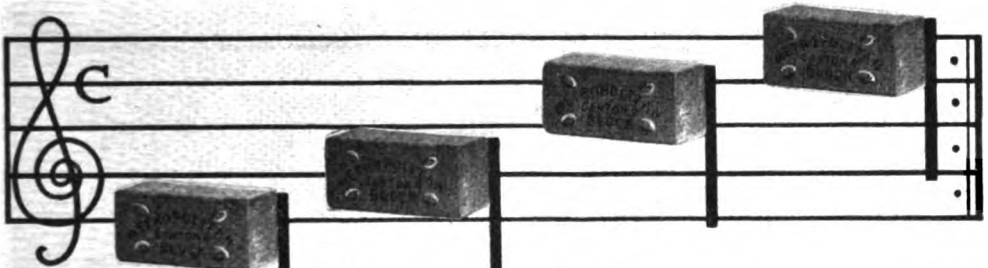
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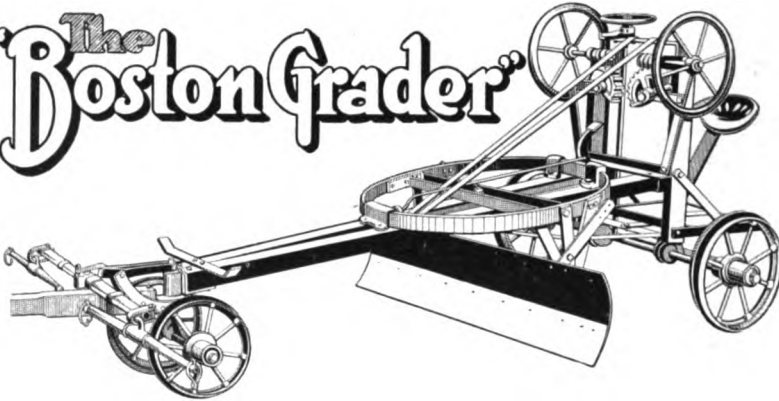
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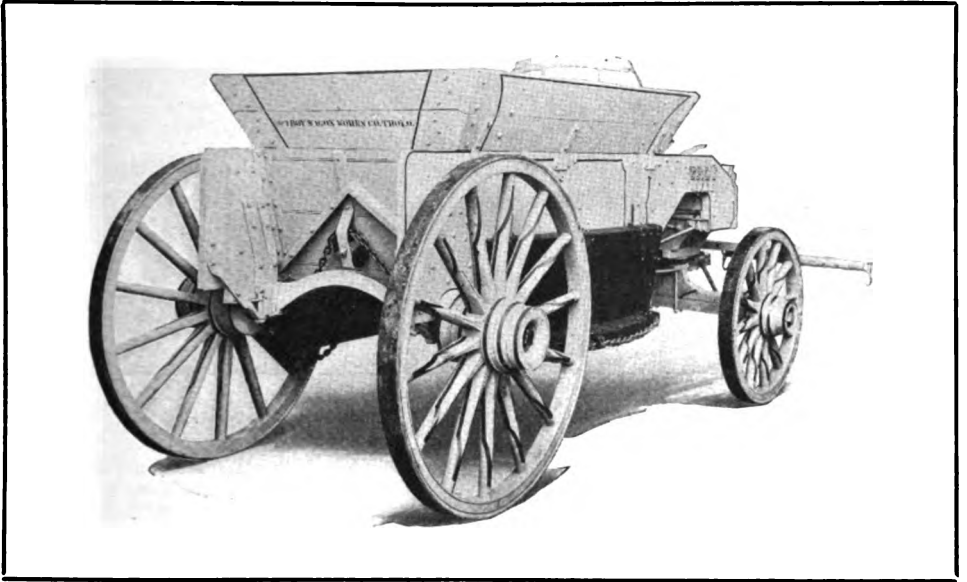
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have revolutionized street sweeping. Not a bit of dust is raised by the Baker Sweeper to make cleaning streets a disagreeable necessity. The Baker has a sprinkler attachment which wets the dirt before picking it up. One man can operate it and do three times the work done by the old method.

It costs only a few cents to sweep streets in a sanitary way, so why spend dollars to blow up dirt and spread disease by hiring white wings and the open broom sweeper?

Write to us. We will send you a description of the Baker Dustless Pickup Sweeper.

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or **BAKER-BARRON, Inc.,**

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Would You Be Interested?

If a man came to your desk and showed you a pen or pencil that would add or subtract as it writes?



Of course you would; anybody would!

We have no such pen or pencil, but we have something better. We have a typewriter which does all this, and you know that the typewriter is three times as fast as any pen or pencil. This typewriter is the

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Adding and Subtracting
Typewriter

(Wahl Adding Mechanism)

This machine adds or subtracts and writes; not only that but it adds or subtracts when it writes. Both operations are one.

You need this machine in your work; every man needs it who has billing to do, or any writing and adding to do on the same page. It saves time, saves labor, detects errors, prevents errors, gives you a mechanical insurance of absolute accuracy.

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New York and Everywhere

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Rocmac construction will save money for your Highway Department every year and give better service than you ever have had before. Write for the new Rocmac Road book. On request, we also shall be pleased to make suggestions as to best methods of meeting the particular difficulties of your neighborhood.

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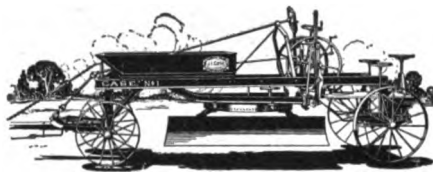
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Phone: 1769 Haymarket

THE DUSTOLINE FOR ROADS CO.
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Built especially for sidewalk crossings and street surface drainage

Made from Pure Pig Iron, this pipe possesses great strength and durability—the ideal pipe for permanent work.

The smooth, round bottom of this pipe permits easy flow of water, prevents it from getting clogged and makes it easy to clean.

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When greatest economy and service at lowest cost are considered, Galion Ideal Cast Iron Pipe is unexcelled. Write for complete information and quotations.

The GALION IRON WORKS & MFG. CO. 111 N. Main St. Galion, Ohio



The Impression Made in Richmond, Va.

by the Exhibition of American and Foreign City Planning,
which was displayed in that city during the first week of May,
is indicated by the following letter from Mayor Ainslee:



GEORGE AINSLEE, MAYOR

OFFICE OF
The Mayor
The City Hall
RICHMOND, VA.

May 11th, 1915.

The American City Bureau,
87 Nassau Street,
New York City.

Gentlemen:-

From all accounts received by me, I judge the visit of the City Planning Exhibit to Richmond to have been an unqualified success. I am informed by local men in constant attendance upon the exhibit that not less than twenty thousand people saw it here.

I have heard only praise for its scope and arrangement, both the lay and professional mind having been impressed with its completeness and simplicity.

Competent opinion here considers the exhibit a great educational force, and holds that it has thoroughly aroused our citizens to the wisdom of the City Planning idea.

I confidently expect great and permanent benefit to Richmond as a result of this exhibition, in comparison with which the cost of the exhibit was trifling.

Very truly yours,

George Ainslee
MAYOR.

Following Richmond, the Exhibition was shown in Cincinnati, and negotiations are now under way with several other cities for the Fall months.

What City Will Be Next?

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THE AMERICAN CITY



South Park System, Chicago, Illinois
Treated with

TASSCOIL *"THE PERFECT DUSTLAYER"*

THE ALDEN SPEARE'S SONS CO.

129 Bigelow Street, Newark, N. J.

140 Sixth Street, Cambridge, Mass.

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The Reliance Portable Crusher

reduces the cost of material—saves delays—cuts down the cost of getting material on the job—does as good work as a stationary crushing outfit.

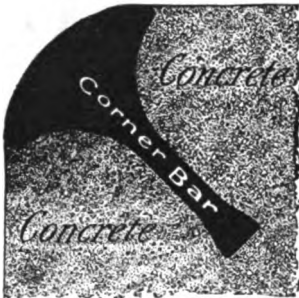
The entire Reliance line of road equipment has been proven time and again to be superior in workmanship and material. *Write for our catalogue.*

Universal Road Machinery Co. Kingston, N. Y.

Branch Offices: Boston, Rochester, Harrisburg. Agencies in 14 principal cities.

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**Is Dovetail
Anchored**



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It is dovetail anchored in the concrete every inch of its length—not merely anchored at intervals.

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**Combination
Heating
Kettle and
Pouring Pot**

The TARCO Combination holds 10 gallons. It's small but just right for a small job.

This combination can be used practically on any small job and is suitable for heating and pouring all kinds of bituminous road preparations. It takes less men, less time and less money to operate.

Let us send you information about how it is built. Write now.

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Baker Adjustable Circle Forms

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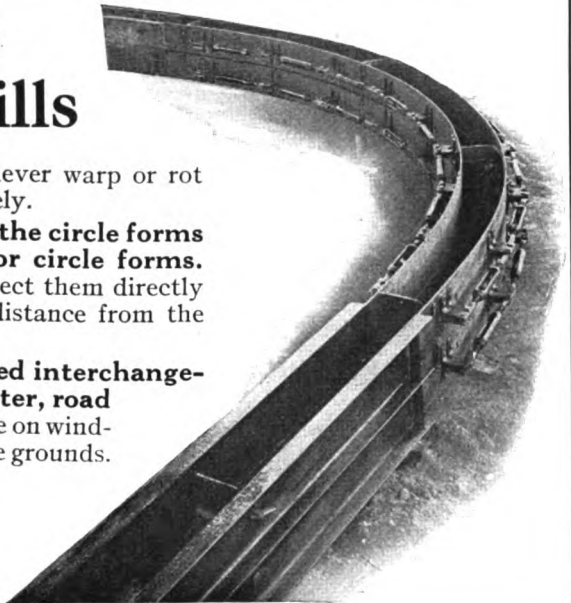
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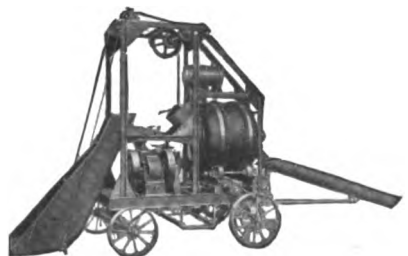
You will agree with us that you should use Koehring Mixers, because the quality of the mixer and the methods under which they are sold, as well as the broad guarantee and service you will secure, make it strictly to your interest to use only Koehrings.

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Neither do man-made asphalts equal the natural asphalts—Trinidad and Bermudez.

Manufactured asphalts are for the first time exposed to the elements when they are put into a pavement or road. Natural lake asphalts have passed through and survived these destructive influences in the course of their age-long tropical formation.

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Facts—not merely our say-so—as to the superior durability of Trinidad and Bermudez pavements are contained in a book entitled "Evidence," which will be sent free to any one interested in getting the best paving for his community.

The Barber Asphalt Paving Company
Philadelphia, Pa.

**Trinidad Lake
Asphalt**

**Bermudez Road
Asphalt**

**Trinidad Liquid
Asphalt**

On New Work—on Repair Work
Streets, Sidewalks, Curbs, Sewers, Buildings
Municipal, State or Private Work

A Concrete Mixer Will Save Time, Labor, and Produce Better Concrete



You will buy a
Concrete Mixer

Then buy a

**Jaeger
"Big-an-Little"**

and obtain the
greatest value in a
Concrete Mixer
that is possible
to obtain

You know mixing stability
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outfit can be made—no
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Columbus, Ohio

Tarvia

*Preserves Roads
Prevents Dust*

A tarviated road invariably means — increased property values and lower road taxes.

MODERN engineers recognize that the automobile has come to stay and they build roads accordingly. Experience has taught them that ordinary macadam cannot resist motor-car traffic. The rear wheels tear the fine stone loose and the surface blows away in the form of dust.

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And of great importance, the reduction in maintenance expenses made possible by this treatment usually *more than pays for the cost of the Tarvia.*

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Tarvia is made in three grades to meet varying road conditions.

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This Company has a corps of trained engineers and chemists who have given years of study to modern road problems.

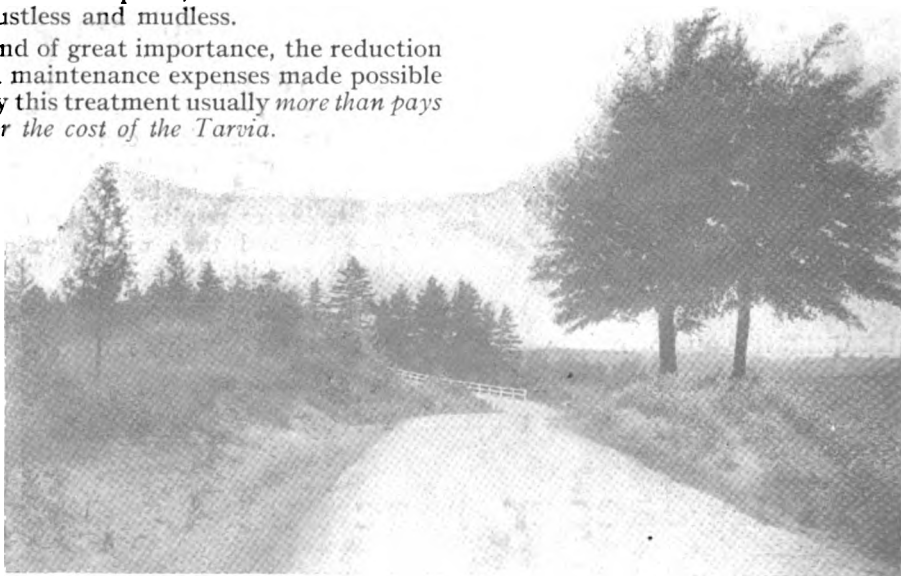
The advice of these men may be had for the asking by anyone interested.

If you will write to the nearest office regarding road problems and conditions in your vicinity the matter will have prompt attention.

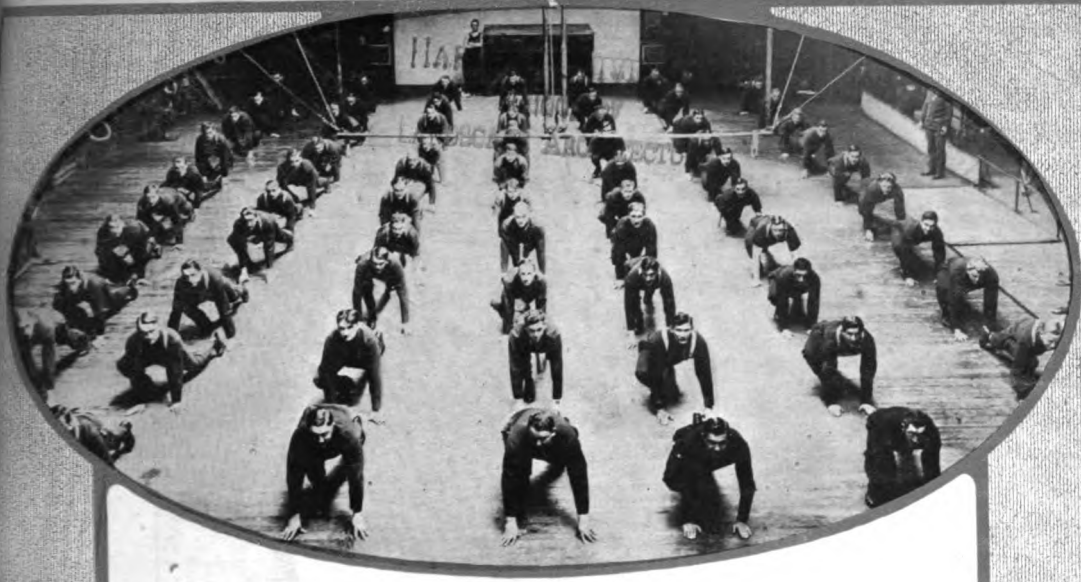
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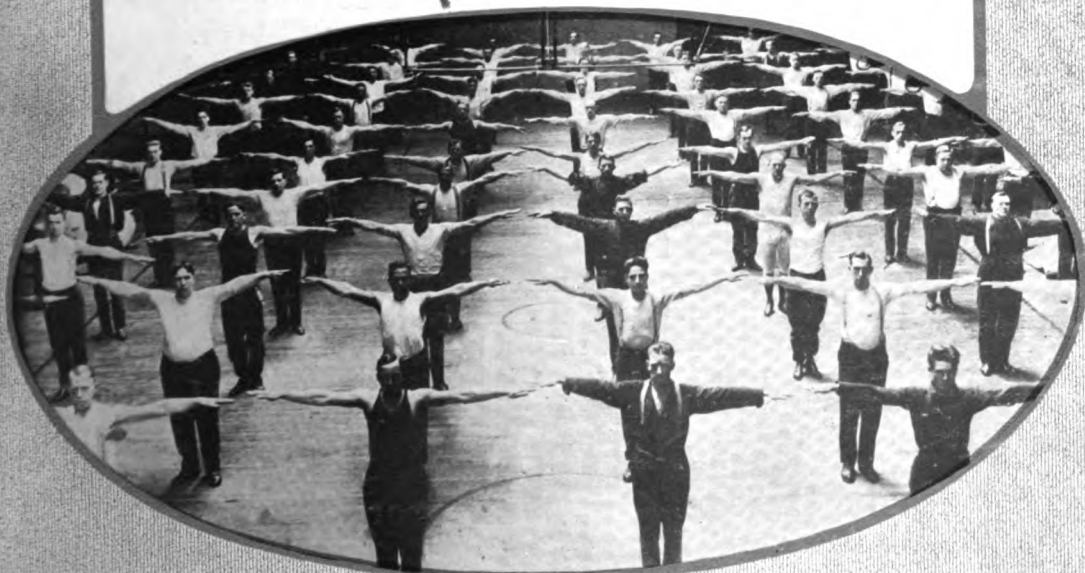
Tarviated Road, New York State Highway, Watertown—Carthage. Note the firm, dustless, easy-traction surface.



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\$2.00 a Year

The American City

Publication
Office
87 Nassau St.
New York



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The Pulmotor in operation

He Was Apparently Dead

Not a limb of his body stirred and his heart action had seemingly stopped, but there was still hope.

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Twenty minutes' work — then the man began to breathe; still longer—and soon he was able to sit up.

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Your fire department should be equipped with the Pulmotor apparatus for the protection of your citizens. Investigate its merits today. Write us.

We also manufacture The Draeger Helmet for protection of firemen fighting in the thick of smoke. Ask about this too

The Draeger Oxygen Apparatus Co.

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THE AMERICAN CITY



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Our facilities for such service are exceptional. Large pipe and special foundries, favorably located in the East, South, and West, afford ample capacity, and with the adequate stocks carried, insure prompt shipments of either large or small orders. Rigid inspection and testing guarantee a high quality of product. An efficient organization is prepared to study your problems, and correspondence on special subjects is invited.

We make

"U. S. CAST IRON PIPE"

in all types and sizes from 2-inch to 84-inch—also Fittings and Miscellaneous Castings of all descriptions.

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For quotations or estimates, apply to nearest sales office

For literature or special information, apply to Publicity Department, Desk 3, Burlington, New Jersey

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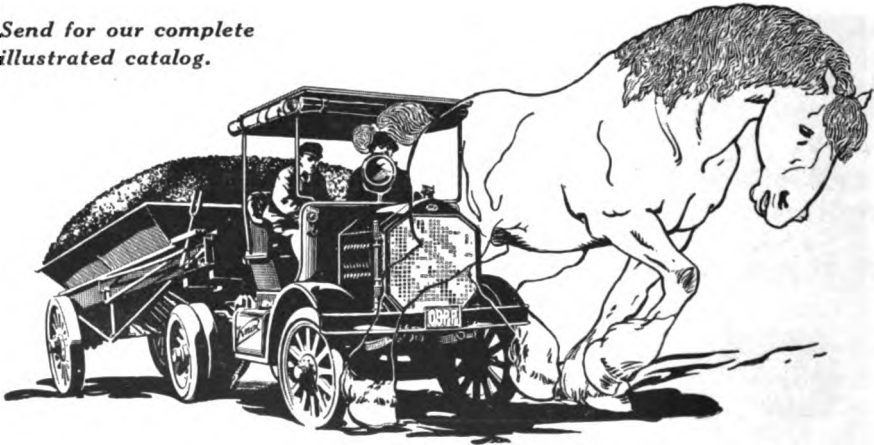
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illustrated catalog.*



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THE AMERICAN CITY

Published Monthly by The Civic Press, 87 Nassau St., New York

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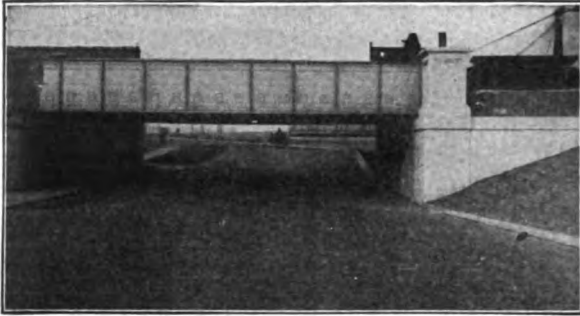
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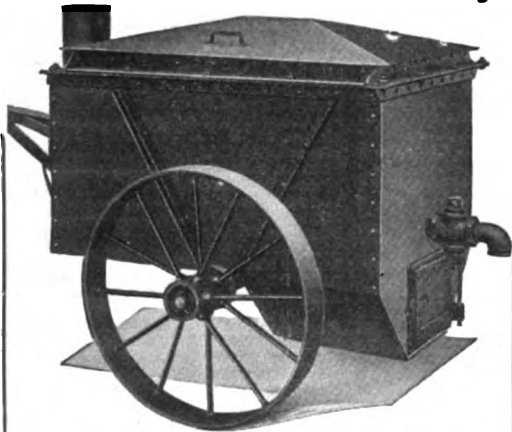
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THE AMERICAN CITY

WATER-WORKS CONSTRUCTION

WINDSOR, CONN.

Sealed proposals will be received by the Board of Commissioners of the Windsor Fire District, until 2 P. M. on Friday, August 20th, 1915, for constructing about 28,000 ft. of 10-inch cast iron water main, 6,500 ft. of 6-inch cast iron water main, installation of 35 hydrants, constructing steel stand pipe about 80 ft. in diameter by 100 ft. high, and electrically driven pumping equipment. Plans, specifications and proposal blanks may be obtained at the office of the Superintendent of the District, 224 Broad Street, Windsor, Conn.

H. R. TURNER, Supt.

PAVEMENT

LA PORTE, IND.

Bids will be received by the city of La Porte, Ind., on 10,000 sq. yds. of modern pavement. Specifications may be obtained by applying in person to the city engineer, No. 410 First National Bank Building, La Porte, Ind.

PROPOSAL FOR STREET PAVING

SOUTH BETHELEHEM, PA.

Sealed proposals will be received at the office of the Borough Secretary, Municipal Building, South Bethlehem, Pa., up to 8 P. M., Monday, August 16, 1915, for eight thousand four hundred yards of Amiesite paving and three hundred and thirty square yards of brick paving. Plans and specifications may be seen and proposal forms may be obtained at the office of the Borough Secretary. The Borough reserves the right to reject any and all bids.

E. H. MCLATHERY,
Chairman, Street Committee.

THOS. GANEY,
Borough Secretary.

ROAD IMPROVEMENTS

SCARSDALE, N. Y.

Sealed proposals for the construction of Popham Road improvements in the Village of Scarsdale, N. Y., will be received until 8 P. M. on August 25, 1915, and will then be publicly opened and read by the Board of Trustees of the Village of Scarsdale at a meeting to be held in the Town Hall.

Plans and specifications may be seen and blank forms of proposal obtained at the office of Waring, Chapman & Farquhar, civil engineers, 874 Broadway, New York City.

A deposit of \$3 will be required of applicants for plans and specifications, and upon their return the amount will be refunded.

Each proposal must be made on one of the blank forms provided, and must be accompanied by a certified check for \$500.

The amount of bond for faithful performance, to be furnished when the contract is executed, will be \$5,000.

The proposed work consists mainly of pile driving and stone filling to form a crib, and a 24-inch cast iron culvert across the road.

The whole work is to be completed before November 1, 1915.

The Board of Trustees reserves the right to reject any or all bids.

By order of
THE BOARD OF TRUSTEES OF THE
VILLAGE OF SCARSDALE, N. Y.
JOHN R. ROSS, Clerk
Scarsdale, N. Y., July 28, 1915.

WATER-WORKS IMPROVEMENTS

WELLSVILLE, N. Y.

Sealed proposals will be received by the Board of Water and Light Commissioners of the Village of Wellsville, N. Y., until 12 o'clock noon on the 25th day of August, 1915, for the construction of the improvements of its water works.

Plans may be seen and specifications obtained at the office of the Board at Wellsville, or at the office of Charles C. Hopkins, Engineer, Rochester, N. Y.

The Board hereby reserves and has the right to reject any or all bids, or to accept any that in its judgment will be for the best interests of the village.

A surety bond satisfactory to the Board in form and amount will be required of him to whom a contract may be awarded.

A certified check, made payable to the order of George B. Rooth Jr., Treasurer, to the amount of \$2,000, must be deposited by each bidder and accompany his bid as a guarantee that in case a contract is awarded to him he will, within seven days thereafter, execute such contract. No deposit required of bidders for valves, valve boxes and hydrants.

Bids will be received for the valves, valve boxes and hydrants separately, and for the remainder of the work either in whole or separately for the storage reservoir, filters and control house, pure water reservoir and gate house and piping on the reservoir lot, in one bid, and for the remainder of the work, consisting of the piping system, force main, intake dam and intake chamber, intake pipe line and pump well, in another bid.

Bids must be sealed and addressed to F. M. Leonard, Wellsville, N. Y., and marked on the outside of the envelopes "Proposals for Water Works Improvements."

THE BOARD OF WATER AND LIGHT COMMISSIONERS,

WELLSVILLE, N. Y.

By F. M. LEONARD, Acting Clerk.

Dated, Wellsville, N. Y., July 22, 1915.

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Have been training in New York for three years and have had practical experience in municipal work. American City, Box 32, 87 Nassau St., New York City.

Graduate Engineer, age 35, of good executive ability, wants position as City Manager, water superintendent or City Engineer. Has been city engineer and superintendent of water, street and sewer departments of small city, and in charge of reservoir and sewage disposal construction and design, and other municipal works for 10 years. Best references. Box 33, care THE AMERICAN CITY.

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Managing secretary of alert civic organization in large eastern city—good organizer, experienced speaker, energetic worker—would consider an opening as civic secretary of alert Chamber of Commerce or as city manager. Experienced in community sanitation and public health work, familiar with public and private relief methods, can direct campaigns for social legislation. Box 36, THE AMERICAN CITY, 87 Nassau Street, New York.

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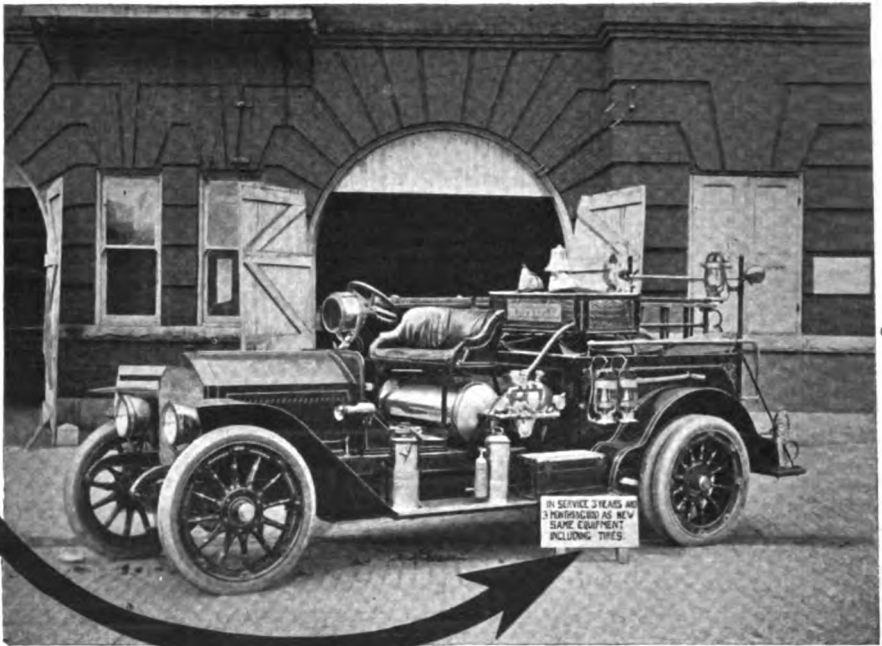
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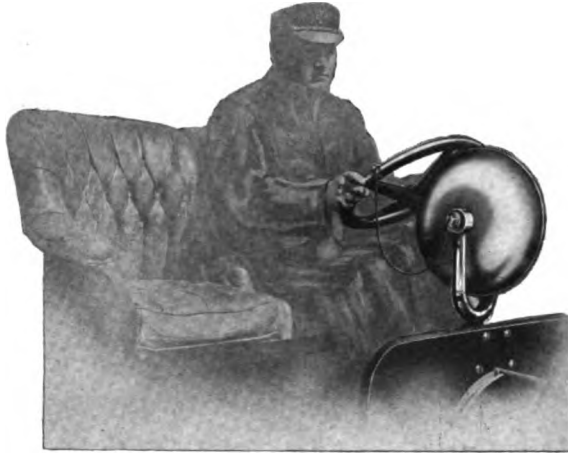
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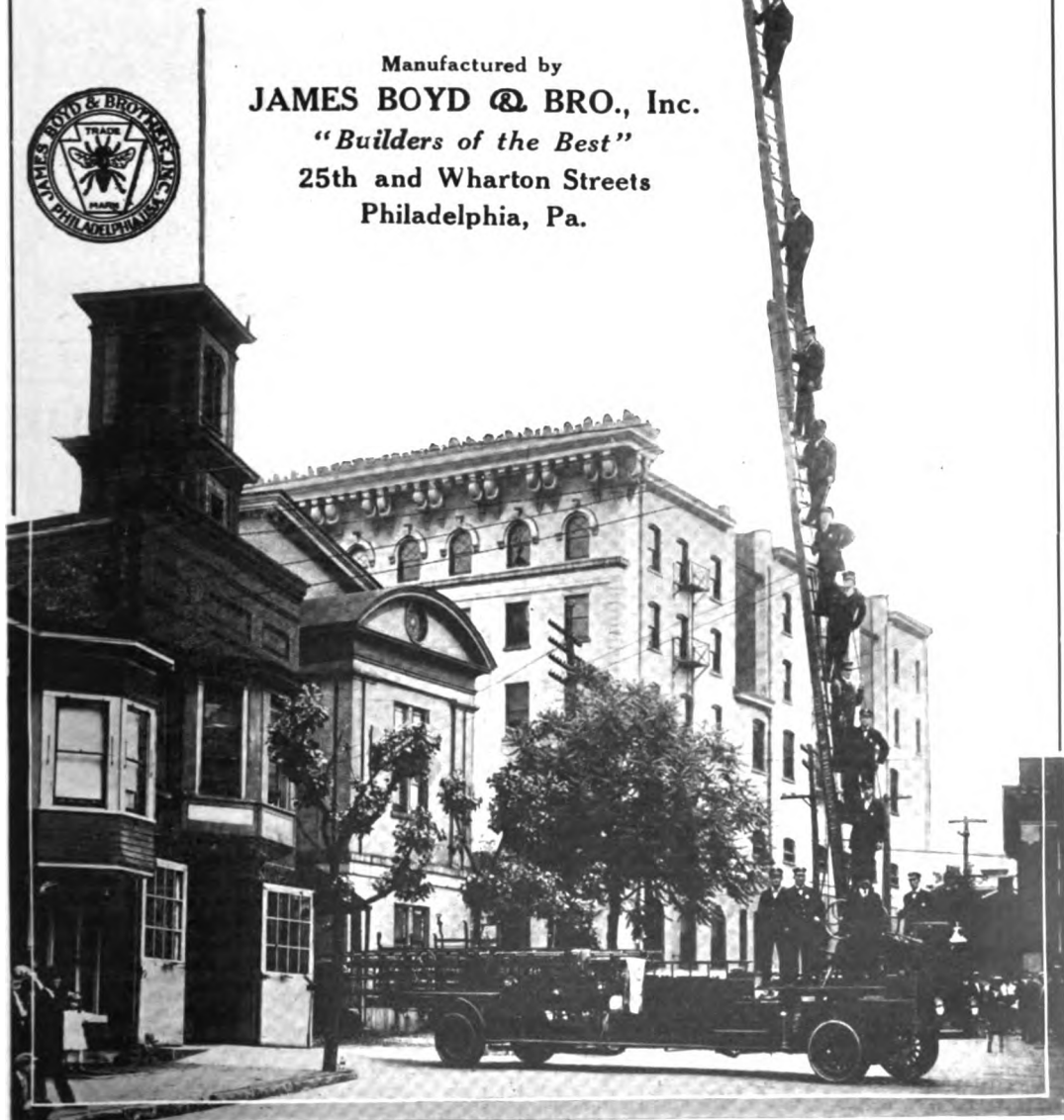
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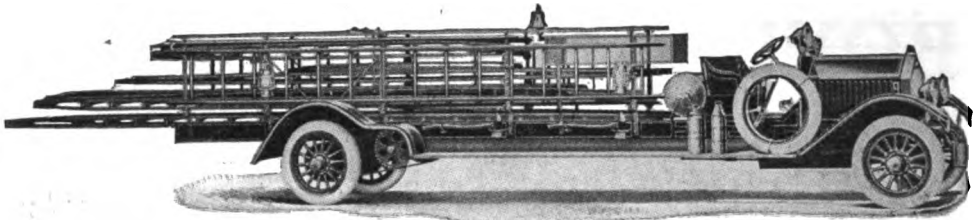


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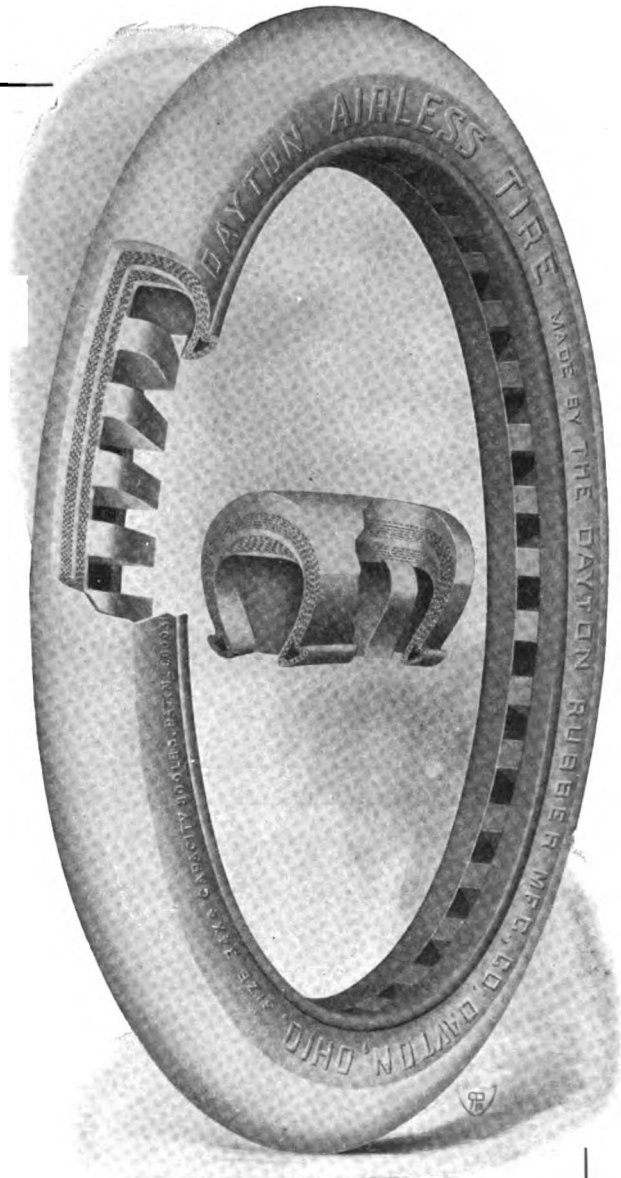
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MOLDED GARDEN AND WATER HOSE

In Lengths up to 1000 Feet

RUBBER VALVES

THE REPUBLIC RUBBER COMPANY

YOUNGSTOWN, OHIO, U. S. A.

A Fire Hose

of unusually careful manufacture

Wax and Para Gum Treated

The lining is of fine Para Gum, hand made,
four calendered, smooth bore or lap-jointed.

Circular balance woven,
each strand of cotton is
treated to a bath of melted
Wax and Para Gum, then
cabled and woven into the
jackets.

Absolutely waterproof,
making the ideal hose for
fire departments.

Treatment lubricates and
solidifies the strands of cot-
ton, assuring long wear.

Made in all sizes from
1 to 6 inches inside diameter

Fabric Fire Hose Co.

Corner Duane and Church Streets, New York

BRANCH OFFICES:

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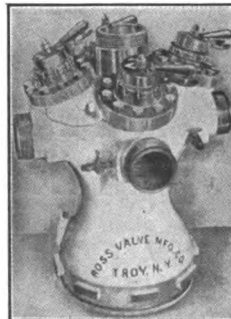
Patented and
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FIRE DEPARTMENT SUPPLIES

Larkin Shut-Off Nozz'es, Automatic Relief
Valves, Play Pipes, Siamese Connections,
Buckley Hydraulic Expanders, Supplies of
every description for Fire Departments.

LARKIN MANUFACTURING CO.

DAYTON, OHIO



High Pressure Fire Specialties, Portable Hydrant Heads

Our Regulating Valves control
the high pressure on the
Fire Service Systems of

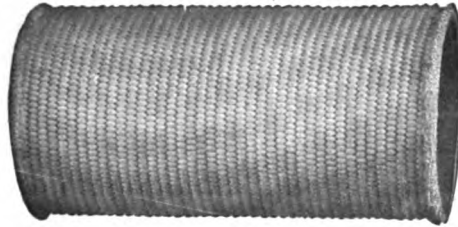
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Manufacturers of Water
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ROSS VALVE MFG. CO., Troy, N.Y.



EMPIRE FIRE HOSE



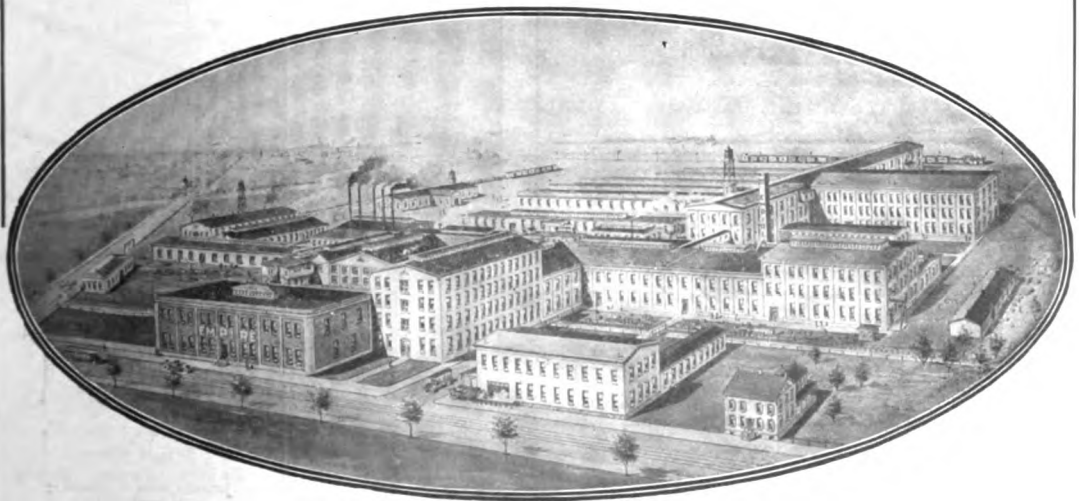
Which New York City Fire Department Could Not Burst Figures Speak for Themselves

Below is the actual record of tests made by the New York Fire Department
on Thursday, October 19th, 1913:

BIDDER.	KIND OF HOSE.	BURSTING PRESSURE.	Weight per length (pounds.)	Tensile strength of rubber tube—average of two tests—pounds per square inch, each
Empire.....	Double Jacket	1,000 lbs. limit of gauge —did not burst	56.5	2103
Competitor No. 1....	" "	850 lbs. burst	60	1735
Competitor No. 2....	" "	720 lbs. burst	59	1984
Competitor No. 3....	4-ply Multiple Woven	550 lbs. burst	55.5	1773

It should be noted that Empire hose only weighs 56.5 lbs. per section and could not be burst at 1000 lbs. pressure. Showing the Superiority of the rubber lining and jacket of EMPIRE HOSE to all competitors. Without question EMPIRE HOSE is the BEST fire hose manufactured. WRITE US ABOUT IT.

EMPIRE RUBBER & TIRE COMPANY, TRENTON, N. J.
Factory, Trenton, N. J.



PLANT OF THE EMPIRE RUBBER & TIRE COMPANY.

When writing to Advertisers please mention THE AMERICAN CITY.

Bi-Lateral Hose in Service Twice as Long

It will not leak—the construction is such that the inside rubber cannot crack nor have pin holes. Read why—

The rubber lining of Bi-Lateral is left free from its jacket. This gives the lining freedom when the hose is flattened so that the tube takes two curves (see lower illustration) at the points of fold which relieves the compression. The rubber remains the same size whether flattened or under pressure.

We will be glad to send you our booklet. Write us today.



Bi-Lateral Fire Hose Co.
326 W. Madison St., Chicago, Ill.



SLUICE GATES, CHECK VALVES, AIR VALVES, INDICATOR POSTS, ETC.

GATE VALVES

EDDY

FIRE HYDRANTS

Hydraulically and Electrically Operated Valves and Sluice Gates. Valves Designed For All Kinds of Service.

EDDY VALVE COMPANY, WATERFORD, N. Y.

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Chicago

Boston

San Francisco

Philadelphia



Water Gates & Fire Hydrants



BUILT FOR UTILITY AND DURABILITY

Write for Booklet

PRATT & CADY CO., INC.

HARTFORD, CONN.

The IOWA Fire Hydrant

(The Latest Corey Type)

Newest and most improved design of fire hydrant. Write for circular.

Also manufacture Gate Valves,
Valve Boxes

**Anderson
& White**

Sole Eastern Agents, Iowa Valve Co.

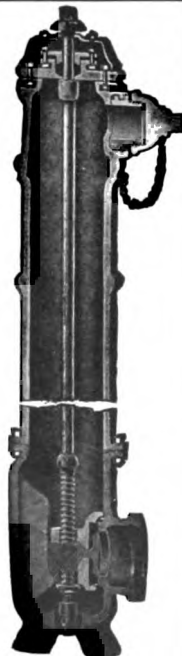
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New York City



FIRE HYDRANTS

**Frost-Proof
Simple-Efficient**

All parts removable without digging up hydrant. Special device prevents street from being flooded should stand pipe be broken. Minimum expense to install and maintain.



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GATE VALVES

FOR

Water, Steam
Gas, Oil, Hydraulic
or Electric Operated
All styles, any size, all pressures

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Ludlow Valve Mfg. Co.
TROY, N. Y.

Branch Offices

New York Chicago Boston
Philadelphia Pittsburgh
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FOSTER PUMP GOVERNOR

(Piston-actuated)

For General Service. Controlled solely by the discharge pressure from pump. Has removable seats, easily renewed when worn. Governor is guaranteed to give close, continuous service.

LET US SUPPLY YOUR PUMP
GOVERNOR REQUIREMENTS

Foster Engineering Co.

Newark, N. J.



Mathews Fire Hydrants

A Recognized Standard

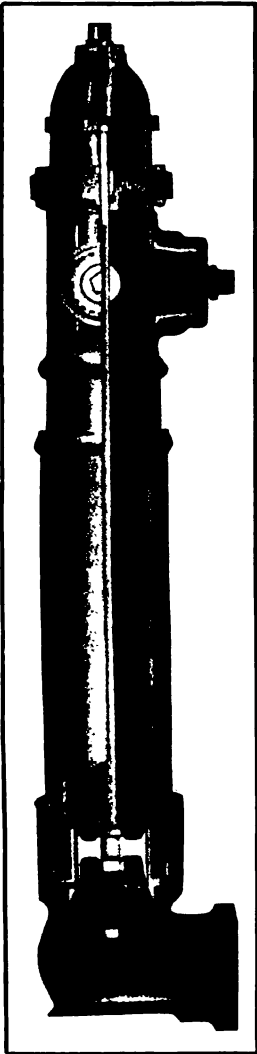
Made in Standard
and High Pressure Types

Frost-Proof—
Positively Automatically Drained—
Always Dependable

GATE VALVES
For All Purposes

CAST IRON PIPE
and
FITTINGS

"REDUCED" Fittings



R. D. WOOD & CO.

Philadelphia, Pa.

Write for Catalogues and Prices



Is a Cheap Meter Cheap?

Not if you take the consensus of opinion of those who surely ought to know. Just listen to the testimony of the water works man who has tried both cheap meters and quality meters and you will not be in doubt very long on this question.

Of course, if your only object in buying water meters is to say that your lines are metered, most anything called a meter will do. But if you are buying meters because you want an actual record of water consumed—you need quality meters, otherwise known as *Tridents*.

Over a million and a quarter Tridents are proving daily that they are worth more than their cost.



NEPTUNE METER COMPANY

90 WEST STREET NEW YORK
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ATLANTA • LOS ANGELES • PORTLAND • SEATTLE
CINCINNATI



Do you Squirm when being bled?

The bleeding and squirming processes are going on continually in cities and towns where these so-called "cheap" water meters are being used. The "bleeding" consists of frequent repairs and replacements of water meters which would not be necessary if the policy followed had been the more far sighted one of paying a little more for the meters at the start, and saving in the end a great deal more than the difference in the initial costs.

If you will send us your address we will gladly mail you some very interesting booklets giving you valuable inside information on the why and wherefore of meters and metering.

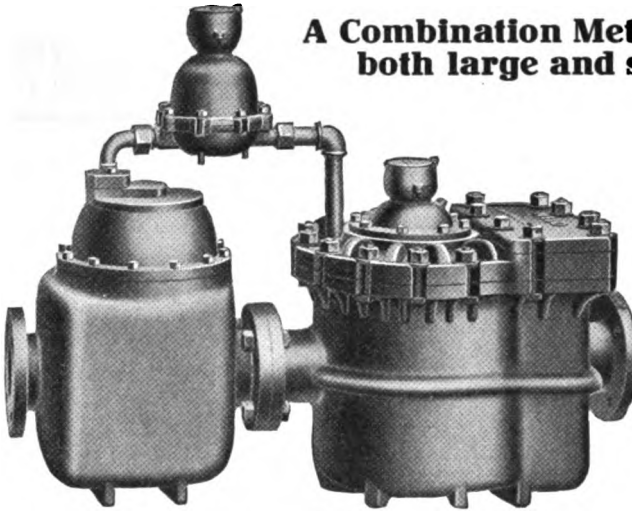
NEPTUNE METER COMPANY

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THE NILO COMPOUND METER

Meets the demands of water works officials—

**A Combination Meter for measuring
both large and small flows correctly**



The Nilo Compound meter is a combination of the Nilo meter, a high-duty meter of acknowledged accuracy, durability and capacity and the King Disk meter which is unexcelled in accuracy on all flows within its capacity, together with an automatic double differential vertical valve, guided and united by a central stem.

Detailed description of meters for all services and conditions on request.

UNION WATER METER COMPANY

Incorporated 1868

Worcester, Mass.

Makers of Worcester Steam Gongs, Water Pressure Regulators, Water Works Fittings

AMERICAN AND NEW NIAGARA WATER METERS

Their Construction:

Dirt and Sand Proof
Submerged Bearings
Reinforced Disc
Jewel Bearing
Intermediate Gears
Adjustment for Pressure
Only Seven Submerged
Working Parts
Self-Cleaning and
Sanitary
All Bronze Casings,
Part Bronze Casings,
or All Galv. Iron Casings



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Write for bulletins on
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BUFFALO METER CO.

Established 1892

290 Terrace, Buffalo, N. Y.



This Leak Was Never Discovered

until a Pitometer survey of the water mains was made.

No doubt this leak had been there for years causing an actual loss of many thousand dollars.

There was nothing visible on the surface to tell of the leak. The water escaped from the blown joint and passed away through the ground.

Water Waste like this costs money and is unnecessary. It can be stopped by a thorough

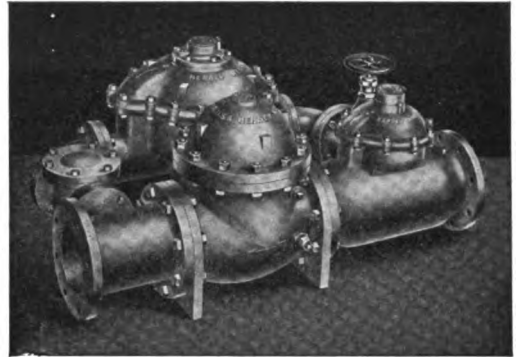
Pitometer Survey

An investigation of this kind will not only bring to light these underground leaks but will be the means of controlling house waste and detecting illegal use of water. This means dollars saved.

Cities such as Toronto and Montreal, Dayton, Ohio, Trenton, N. J., Auburn, N. Y., and over a hundred others have already used our service. Let us tell you what we did for some of these. Write for more information. We are ready to help you.

The Pitometer Company

New York Edison Building
25 ELM STREET, NEW YORK



STOP WHOLESALE LOSSES! USE THE HERSEY DETECTOR METER ON FIRE SERVICES

THIS METER HAS BEEN ACCEPTED WITHOUT RESTRICTION BY INSURANCE COMPANIES AND WATER WORKS IN MORE THAN 500 CITIES AND TOWNS IN THE UNITED STATES AND CANADA FOR USE ON OVER 3,000 FIRE SERVICES

PROTECTING OVER \$1,000,000,000 WORTH OF PROPERTY
HERSEY MANUFACTURING CO.

MAIN OFFICE AND WORKS, SO. BOSTON, MASS.

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"ALL KINDS OF METERS FOR ALL KINDS OF SERVICES"
OVER 600,000 SOLD



Now made in 100 different models and sizes. The new Clark Meter Coupling Yoke and Clark Riser Coupling are great savers. The Clark Meter Testers are the recognized standards of the world. Made in 9 models regularly and any special construction to order.

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Everything for the Water-Works
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Here's One of 19

styles of the Hydro-Chronograph. There is one style among the nineteen

which is just suitable for your particular condition.

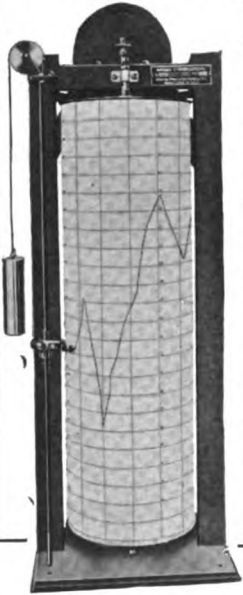
The Hydro-Chronograph

furnishes your water works with accurate records, which all up-to-date water departments need.

Write for our booklet and make inquiry how we can help you. We will be glad to advise you without obligation on your part.

Hydro Mfg. Co.
Bullitt Bldg. Phil., Pa.

Type C.I.W. The Hydro-Chronograph Weir Gage



Curb and Meter Boxes Flush Tank Regulators Wireless Pipe Locator Testing Plugs

MODERN IRON WORKS

"The New Daylight Shop"

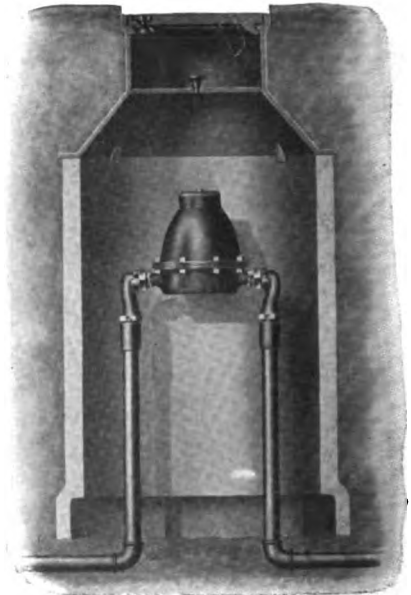
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**Badger Meter
Manufacturing Co.**

Pioneer Manufacturers
.. of ..

**WATER
METERS**
OF THE WEST
Milwaukee, Wis.



"WABASH" BOX WITH "OPEN NUT" FITTING.

Products.
"Ford" Meter Settings, include the "WABASH" Box, for outside setting of meters; and the "Ford" Meter Testing Machine. Also Meter-Setting Accessories.

Patents.

Every essential feature of all "Ford" Boxes and Concrete Forms are thoroughly covered by patents, which will be protected against all infringers.

Points of Superiority of "Wabash" Settings.

- (1) Ample frost protection is given meter, because of depth of hood (all sizes are 9 1/4 inches deep), and of inner lid feature, which creates a dead air-space within neck of box.
- (2) The lid of this box fastens by means of brass worm screw, and may be thrown down on box in any position when a turn or two of worm securely locks it. Fastening cannot be lost from lid.
- (3) The lid cannot be left unlocked without immediate detection.
- (4) If lid freezes or becomes stuck for other reasons, it still opens readily by reverse motion of screw, and does not have to be dug or pried up.
- (5) By reason of use of the "Ford" fittings, in connection with the "Wabash" cover, meter may be installed or removed through cover in one minute, and it is never necessary to dig up or disturb cover of box.

The "Wabash" Box with Yoke Fitting.

This box (Fig. 1), for outside setting of meter, consists of a hood-shaped cover supplied with patent lid and inner lid, and provided with a "yoke" and fittings to receive the meter. In this type of box the yoke fittings are screwed onto risers from the service line, and meter held in place near the surface. These fittings and yoke become a permanent part of the meter setting.

These settings are made in three sizes for 3/4-, 1-, and 1 1/2-inch, meters and require standard vitrified tile of 15-, 18- and 30-inch, respectively. Weights of covers are 38, 45 and 54 lbs., respectively.

"Wabash" Cover with "Open Nut" Fitting.

In this type of setting (Fig. 2) the cover is identical with regular yoke pattern, but the "Open Nut" connection is substituted for the yoke with its wedge arrangement. This is a thoroughly dependable arrangement, but is offered as a cheaper substitute for the regular "Wabash" setting. In this box, meter may be installed and removed through neck. Female part of fitting, with gasket in place, is started on to meter spud and the whole dropped into position, engaging male part of fitting which is permanent part of service riser and nut screwed up with wrench.

Installation.

The "Wabash" boxes may be set on standard tile, or concrete pipe may be made on the ground. We are prepared to supply thoroughly well-made and practically collapsible forms for making this concrete pipe in any size desired.

THE FORD METER BOX COMPANY

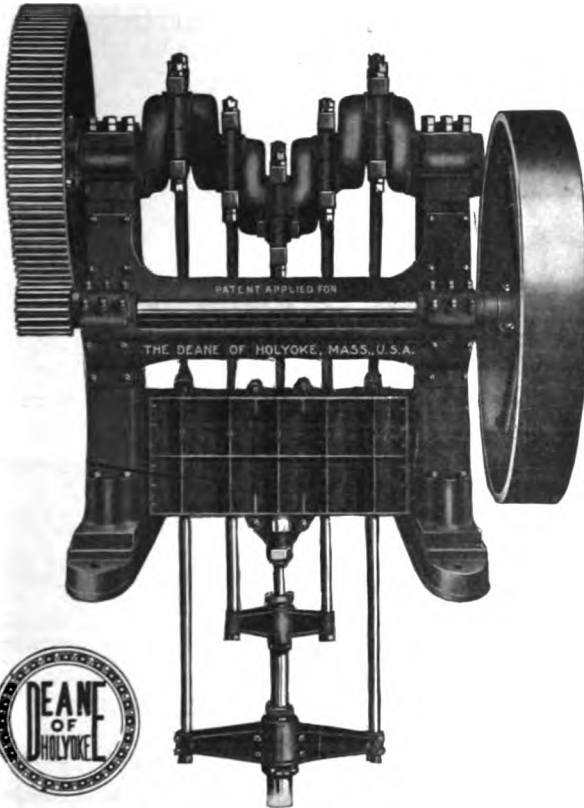
Manufacturers of "Ford" Systems of Meter
Settings and Accessories
WABASH, IND.

**DEANE OF
HOLYOKE**

GLENDORA

TRIPLE-PLUNGER

ARTESIAN-WELL PUMPS FOR MUNICIPAL WATER-SUPPLY



Satisfactory installations at

- 4 Redlands, Cal.
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- 2 Transcona, Man.
- 2 Perry, Iowa.
- 1 Mauch Chunk, Pa.
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*Mauch Chunk Has Ordered a
Second Pump*

These machines are operating at depths of 450 ft. or less, lifting from the surface against pressures as great as 100 lbs. per sq. in.

Capacities up to 5,000 G. P. M. can be supplied.

All Acceptance—Test Efficiencies show that this is

The Only Right Pump For Really Big Deep-Well Installations.

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International Steam Pump Company

Deane Steam Pump Plant

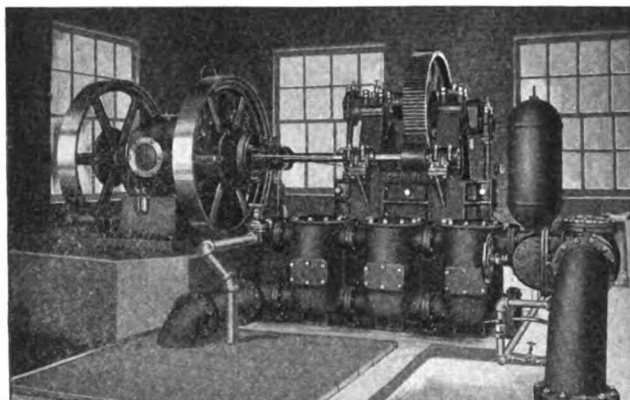
Power Pump Manufacturers

Works: Holyoke, Mass.

New York Office: 115 Broadway

Branch Offices in all Principal Cities

D305.8



Deming Triplex Power Pumps direct-connected to gasoline engine; supplying water for the city of Newburyport, Mass.

For Municipal Water Works Service

Deming Power Pumps will supply water for municipalities at a very low upkeep and operating expense. They cost about 66% less to operate than steam pumps.

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Power Pumps

are adapted for practically all pumping conditions. They are made in capacities up to 60,000 gallons per hour; for service in shallow or deep wells; may be operated by electric motor, or gasoline engine, either direct-connected or by belt. Let our engineering department solve your pumping problem. We have been making pumps for 35 years.



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CLEVELAND

VERTICAL MULTI-CYLINDER FOR PRIVATE AND CENTRAL STATION POWER PLANTS

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Re-filtration Systems for Natatoriums

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"The Controlling Altitude Valves"

maintain a uniform stage of water in standpipes, reservoirs or tanks.

'No Floats, No Fixtures'

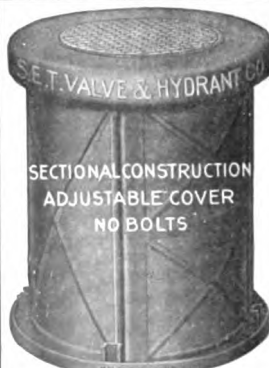
No overflow in case of fire pressure. Valves closed by water or electricity.

"FLOAT VALVES"
"REDUCING VALVES"

AUTOMATIC VALVES
For Steam and Water Service

GOLDEN-ANDERSON VALVE SPECIALTY CO.

Office: 1229 Fulton Bldg., PITTSBURGH, PA



The Ideal Roadway Box

It is easily and quickly installed. Can be used in conjunction with or without brick or concrete underpinning.

By its sectional construction and adjustable top it is adaptable to any change in the street grade without the trouble and expense of digging up the street and resetting.

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has already solved over 47,000 Pumping Problems

Just think of what that means !

It means that over 47,000 Morris Pumping Engines are busily at work, some working day and night continually.

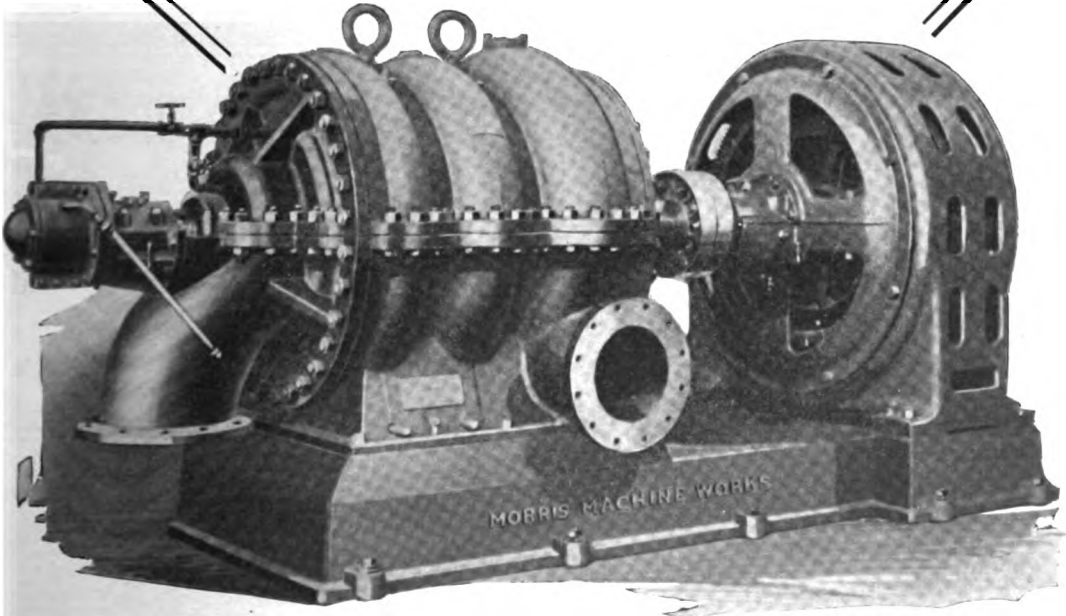
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It also means that we have met every pumping problem—over 47,000 of them have been solved—Why not yours ?

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**12" Three Stage Pressure Pump Dir. Con. 350 H. P. Electric Motor
CHARLOTTE, N. C., WATER WORKS**

This pump under test developed 76½% efficiency when delivering 3,500 gallons per minute against a head of 260 feet, requiring 300 H. P.



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"WATCH DOG" WATER METERS

Interchangeability

Low Maintenance Cost

Frost Guarantee

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The Detector



is an absolutely reliable instrument for locating lost Gate Valves and Service Boxes.

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If it does not prove as represented, can be returned.

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"Let those now love who've never loved before,
And those who always loved now love the more."



Long Life.

Lasting Accuracy.

All parts interchangeable.

Maintenance cost nominal.

Their merits have made meter systems popular. A good article is always worth the price. All improvements which the tests of time and long service show to be requisite in a Perfect Water Meter are embodied in the Lambert.

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**Sluice, Head and Penstock Gates
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The kind that don't wear out.

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In paving city streets or building country highways GMC Trucks are demonstrating their ability to cut construction costs and speed up the transport of material. Sand, gravel, crushed stone, brick, asphalt—all are being efficiently handled.

In addition to automatic dump trucks we also build a full line of flushing and sprinkling trucks, ambulances, police patrols, and machines for handling stores, garbage, etc.

We build a truck for every municipal use—both gasoline and electric power. Complete information on request.

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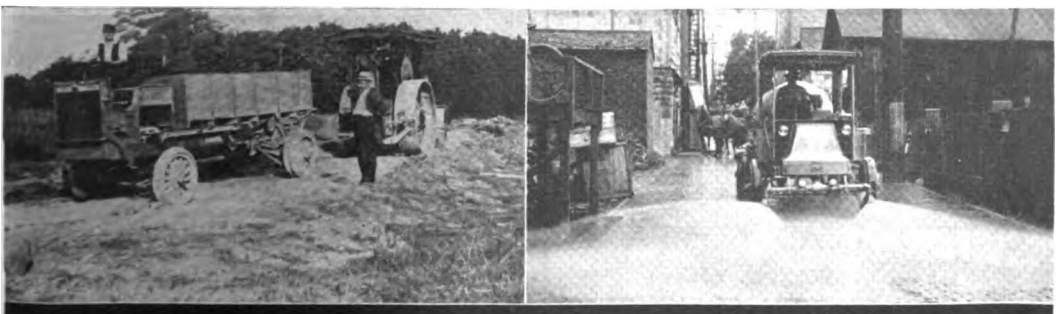
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Direct Factory Branches: New York, Boston, Chicago, Philadelphia, St. Louis, Kansas City

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No matter how small or large your contract, Remember—

STEEL FORMS are a SAVING—Not an EXPENSE— LET US PROVE IT

**Heltzel Forms
are Used by
Over 256
Municipalities
Exclusively**

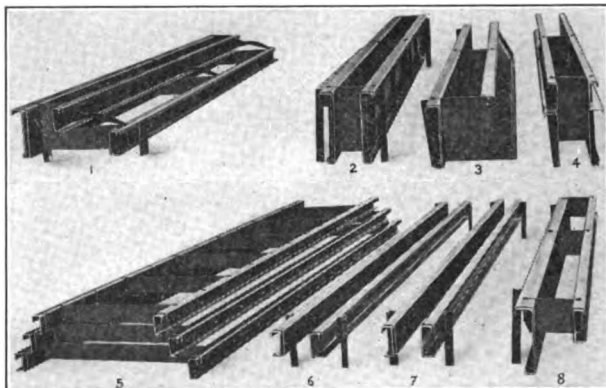
CITY OF JAMESTOWN
N. Y.

Heltzel Steel Form & Iron
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Gentlemen: The Heltzel
forms in use by our
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absolute satisfaction. The
simplicity of setting the
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with wood forms makes
a considerable saving in
the cost of constructing
walks. I would not like
to be without them.

Very truly yours,
(Signed)

FRANK W. SWANSON
Superintendent of Streets.



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for Every con-
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Road**

The Strongest—Simplest—Most Widely Used Forms on earth

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for Every
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**Used on
Lincoln
Highway,
National
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Ask for
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THE HELTZEL STEEL FORM & IRON WORKS, Warren, O.

FOR THE RESERVOIR, SEWER
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**CHLORIDE OF LIME
IN DRUMS**

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The Best Material for CALKING
Joints in Cast Iron Pipes is

Ulco Lead Wool

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We manufacture the highest grade of

Sulphate of Alumina

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**J-M Asbestos Built-Up
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Light weight, long runs easily handled, no slack and lend themselves to all practical bends.

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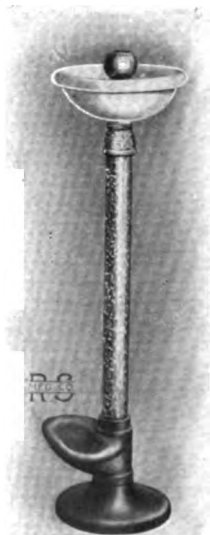
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But don't use these methods in buying an instrument of precision, an instrument which, when it is made as carefully, as nicely and as beautifully as a Buff, is not simply manufacturing but becomes an art and a science.

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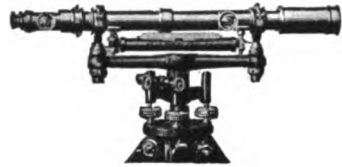
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GURLEY LEVELS

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AKRON, OHIO**

VOLUME XIII
NUMBER 2

The American City

NEW YORK
AUGUST, 1915

Fire Prevention Work of the Cincinnati Fire Department

By Henry C. Bunker
Chief, Cincinnati Fire Department

PERHAPS the most distinctive feature of the work of the Cincinnati Fire Department is its contribution to fire prevention in organized inspection of buildings, both public and private, for the purpose of reducing the fire risk.

These inspections were inaugurated in 1912. Prior to the first of the present year, however, the work was not in charge of any one person, but when reports were made from the various districts the office force cared for them the best they could. Beginn-

ing January 1, 1915, a man was placed in entire charge of this inspection work and has since devoted his whole time to it. He not only supervises the inspections, but does the clerical work also. The work has been organized, and a "follow-up" system installed that not only brings efficient results, but makes possible an accurate record of what has been done. Inspections to the number of 28,118 were made during the first six months in 1915. The defects found totaled 3,007, of which 2,902 have been

Co. No. _____		FIRE APPLIANCES:		For Chief's Use Only	
Location of Building _____		Sprinklers, How Dressed _____		No. _____	
Owner or Lessee _____		Condition _____			
Address _____		Cut-Off Location _____			
Construction _____ No. Floors _____ Roof _____		Hoses _____ Condition _____			
Set out Use and Name of Occupant of Each Floor.		Extinguishers _____ Buckets _____			
		Hooks _____ Axes _____			
		Water Barrels _____			
		Location of Fire Shutters _____			
Insides <input type="checkbox"/> Outside <input type="checkbox"/> Paint <input type="checkbox"/> Aids <input type="checkbox"/> Water <input type="checkbox"/> Rubbish <input type="checkbox"/> Hot Ashes <input type="checkbox"/> Misc. <input type="checkbox"/>		Fire Doors Yes <input type="checkbox"/> No <input type="checkbox"/> Sky Lights Yes <input type="checkbox"/> No <input type="checkbox"/>			
Where? _____		Stand Pipe _____ Gas Cut-Off Where _____			
Ingress and Egress Impeded:		BASEMENT:			
Doors <input type="checkbox"/> Stairways <input type="checkbox"/> Aids <input type="checkbox"/> Fire Escapes <input type="checkbox"/> Halls <input type="checkbox"/> Windows <input type="checkbox"/> Areas <input type="checkbox"/>		How Entered _____			
Where? _____		Remarks _____			
Arrangements of Goods Preventing Reasonable Access, Where and How? _____					
In Dangerous Condition:					
Stairways <input type="checkbox"/> Roof <input type="checkbox"/> Lighting System <input type="checkbox"/> Heating Appliances <input type="checkbox"/> Misc. <input type="checkbox"/>					
Where? _____					
ELEVATORS Enclosed _____ Not Enclosed _____					
Location of Electric Switch Board: _____					
		Condition should be Remedied within _____ days from date			
		Date _____		INSPECTOR _____	

FIG. 1.—The original measures 7 7/8 by 5 3/8 inches

remedied, with 105 still on file to be remedied.

In addition to these inspections, which were part of the regular work of the Inspection Bureau of the Fire Department, 10,790 inspections were made as a result of reports from the "clean-up" campaign conducted by the Chamber of Commerce. Of these 7,850 have been remedied, with 2,940 still on file July 1 to be remedied.

In 1914, when this inspection work was not regularly organized, 13,488 inspections were made the first six months of the year. It will thus be seen that more than twice as much work has been done this year than last.

The fire loss in Cincinnati for the first six months of 1914 was \$332,000, while for the first six months of 1915 it was but \$195,000. It is also interesting to note, in this connection, that for the first six months in 1913 the fire loss was \$772,000.

A very considerable proportion of the credit for the reduction of fire loss should be given to this work by the Cincinnati Fire Department.

The inspections of the various districts in the city are made by members of the Fire Department who are assigned to that duty. This, of course, reduces the number of men available for possible fires, but the various fire stations in Cincinnati are well manned and no lack of fire fighting efficiency has resulted.

The reports are made out in duplicate, the original in each case being sent to the office of the chief and the duplicate being retained by the fireman who makes the inspection. The report blanks are bound in book form, the original being on perforated sheets. The form of these blanks is shown in Fig. 1.

INSPECTION BUREAU OF FIRE DEPT		191	
LOCATION OF PROPERTY		INSPECTION NO.	
OWNER AGENT OR LESSEE	ADDRESS	DATE OF NOTICE	DATE REMEDIED
DEFECTS			
REMARKS			

FIG. 2.—The original measures 8 by 5 inches

CINCINNATI FIRE DEPARTMENT OFFICE OF CHIEF	
IN _____	NO. _____
YOU ARE HEREBY NOTIFIED THAT ON INSPECTION OF YOUR PREMISES LOCATED AT _____ AND USED AS A _____ the following conditions were found to exist in violation of Ordinance No. 2565 of the City of Cincinnati. (copy of this ordinance is printed on the reverse side of this notice)	
As this condition would be a serious hindrance to the proper handling of a fire by this department should one occur, and as it is contrary to the law, you are herewith notified to have this obstruction removed or alterations made within _____ days on receipt of this notice.	
Failure to comply with the foregoing order and to execute the same within _____ days as above stated will render you liable to the penalties of said ordinance.	
_____ Chief Cincinnati Fire Department	

FIG. 3.—The original measures 5 by 8 inches

When a report of a defect is received, the person responsible for the defect is called up by telephone or addressed by letter, and a record of the communication made on a "follow-up" card, shown in Fig. 2. These "follow-up" cards are carried in a "tickler" file, so that the person in charge may make certain that they receive attention at the proper time.

At the end of the period allowed for the correction of the defect, the inspector who originally sent in the information is notified to make a reinspection. If he then reports that the defect still exists, the person responsible is sent the printed notice shown in Fig. 3.

Upon the back of this notice is printed the full text of the ordinance which authorizes the Chief of the Fire Department of the city to inspect buildings and to order correction of conditions therein which may be endangering property and life by fires and to punish any disobedience of orders given by him to correct such conditions.

This ordinance is very

wide in its scope and practically gives the Chief of the Fire Department as much power as the State Fire Marshals. The fearless and diligent following up of reports of defects has been responsible for a pronounced reformation in conditions of many premises in the city.

At the time the person responsible for the defect has been notified as above, the inspector is so informed by a blank shown in Fig. 4. Attached to this last blank is a stub which the inspector detaches and returns when the conditions have finally been remedied.

As above stated, these various steps are followed up by means of a "tickler" file in which the cards shown in Fig. 2 are kept. Attached to each one of these cards in the file is kept the original report of inspection, and when the inspector receives notice on the blank (Fig. 4) he attaches this notice to his carbon copy of the report in his book of blanks.

The successful operation of this "follow-up" system of inspection has resulted in in-

quiry from many other places as to the procedure involved, among these being St. Louis, Mo.; San Diego, Cal.; Rochester, N. Y.; Detroit, Mich.; Covington, Ky., and Portsmouth, Ohio.

Of course the success of the inspections will depend upon the interest taken by the firemen in the work, upon the integrity with which the reports are followed up, and upon the strict enforcement of orders, no matter against whom they may be issued. These elements have all been in existence in the work of the Cincinnati Fire Department.

Of late years the fire departments of cities have come to realize that a considerable portion of their duties should consist in taking steps to prevent fire; that the prevention of

fires is equally important as their extinction.

Those who have been acquainted with the methods and results of the Cincinnati system are firmly of the opinion that if it is maintained at its present standard several years, a pronounced and permanent reduction in the city's fire loss is certain to result.

CINCINNATI FIRE DEPARTMENT
OFFICE OF CHIEF

NO. _____

HAS BEEN NOTIFIED THAT ON INSPECTION OF PREMISES
LOCATED AT _____
AND USED AS A _____
the following conditions were found to exist in violation of Ordinance
No. 1265 of the City of Cincinnati, a copy of this ordinance having been
forwarded to above party.

SPECIAL INSTRUCTIONS.
You will kindly detach the stub below and return to office of Chief
just as soon as conditions have been remedied as above.
In referring further to this report always refer to the number
indicated above.
To Co. _____ Date _____ Chief _____

NO. _____
DATE _____
CONDITIONS WITH REFERENCE TO REPORT AS NUMBERED
ABOVE ON PROPERTY _____ BY _____
AND LOCATED AT _____

AND COVERED BY MY ORIGINAL REPORT DATED _____
HAVE BEEN COMPLETELY REMEDIED TO CONFORM TO ORDINANCE
NO. 8885
Inspector _____

FIG. 4.—The original measures 5 by 8 inches

Intemperance and the Public Health

At a recent conference attended by 200 Indiana health officers, a resolution was adopted unanimously declaring that health officers and physicians should join in the campaign against alcohol.

A diminution in the consumption of alcohol by the community, according to those who are in a position to know and to judge, would mean less tuberculosis, less poverty, less dependency, and less pressure on our hospitals, asylums and jails. Intemperate drinking cuts into the support of the family. The drinking of parents weakens the vitality of children. Drinking mothers lose twice as many babies as do sober mothers. More

alcoholism is found in the parents of feeble-minded children than in the parents of normal children. The children of drinkers develop more slowly and do poorer school work than do the children of abstainers. Alcohol impairs the tone of the muscles, lessens the product of laborers, depreciates the skill and endurance of artisans, impairs memory, multiplies industrial accidents, causes chronic disease of the heart, liver, stomach and kidneys, increases the death rate from pneumonia, and lessens natural immunity to infectious diseases.—*From the Weekly Bulletin of the Department of Health, City of New York, June 19, 1915.*

Organization and Operation of a Municipal Garage

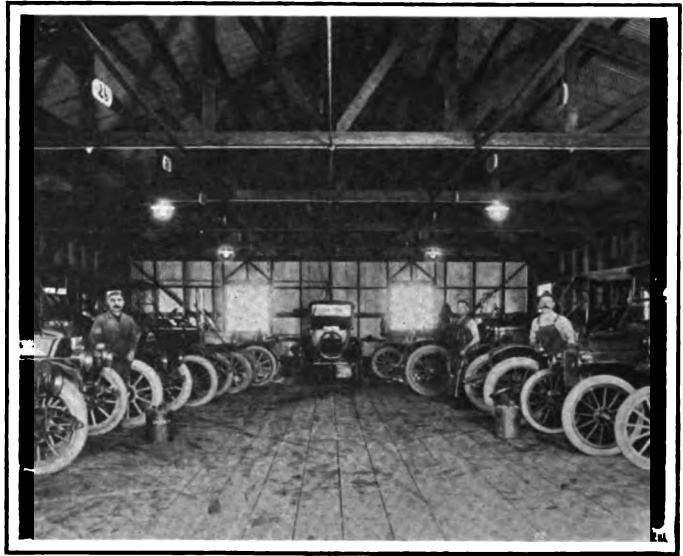
By W. H. Jordan

Secretary, Executive Department, Oakland, Cal.

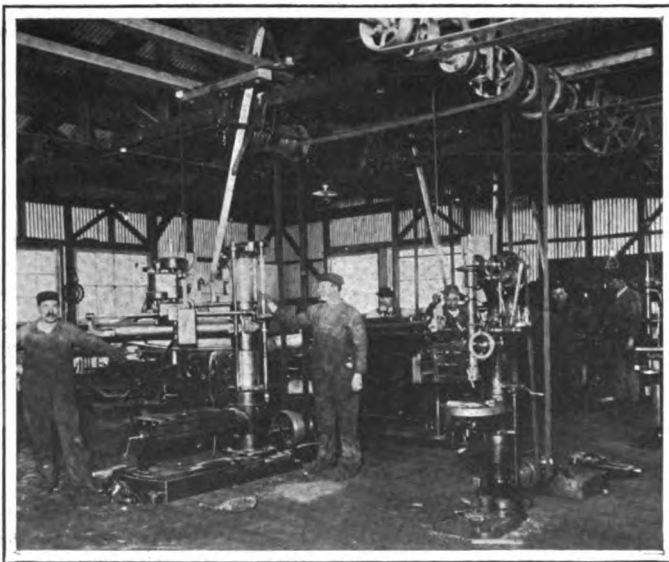
USE of the automobile in the public service has grown apace with its tremendous development in every field of human activity. Two years ago the city of Oakland, Cal., found that its automobile service called for attention, lest the operating cost should run beyond all fair proportions. To this end a municipal garage was established where every city department car could be brought under systematic control and supervision. This was effected, the only exceptions being the police and the fire department machines, which were for obvious reasons required to be handled within those departments.

The Civil Service Board determined that,

given a small Ford automobile, for example, the service of certain city employes could be materially increased; that thus equipped, one \$100 man, outside inspector for exam-



MUNICIPAL GARAGE, OAKLAND, CAL.



MACHINE SHOP OF THE OAKLAND GARAGE

ple, could perform the work of two or three \$100 or \$125 men walking or using horse and buggy or street cars in the daily routine. With this established, supervision and control of the cars and of the drivers' service was necessary to obtain desired results. This problem of control was met by the installation of a system of merits and demerits which definitely fixed the responsibility of the car operator, not only as to the actual time of car service, but for any dereliction in car handling. The standards of use as

"A record of all merits and demerits under these rules shall be made by the Auto Mechanic and reported to the Head of Division or Efficiency Record Clerk of each department on the first day of each month. He shall also send a report of all merits and demerits to the Efficiency Division on or before the fifth day of each month. The Head of Division shall enter the merits or demerits reported by the Auto Mechanic on the 'Time and Work Record' of the employee, and shall show same in the Discipline Column of the Monthly Efficiency Report to the Civil Service Board, marking merits in red ink and demerits in black ink."

The check system adopted is as follows:

12. Mileage per gallon of gas:

2 for 1 mile
4 for 2 miles
8 for 3 miles
15 for 4 miles
25 for 5 miles or more

Following is a copy of a daily register:

No Automobile shall leave Garage for any purpose without toll round being made.

Day	Tuesday	Date	April 13, 1915
Number	10000 to 100000	Number	100000 to 200000
1	E. Smadha	700.00	500.00
2	Chas. Hill	90.00	100.00
3	F. Hill	75.00	50.00
4	F. Hill	100.00	100.00
5	F. Hill	75.00	500.00
6	F. Hill	75.00	40.00
7	Accum.	100.00	50.00
8	Accum.	100.00	100.00
9	Accum.	100.00	100.00
10	Accum.	100.00	50.00
11	Accum.	100.00	50.00
12	Accum.	100.00	50.00
13	Accum.	100.00	50.00
14	Accum.	100.00	50.00
15	Accum.	100.00	50.00
16	Accum.	100.00	50.00
17	Accum.	100.00	50.00
18	Accum.	100.00	50.00
19	Accum.	100.00	50.00
20	Accum.	100.00	50.00
21	Accum.	100.00	50.00
22	Accum.	100.00	50.00
23	Accum.	100.00	50.00
24	Accum.	100.00	50.00
25	Accum.	100.00	50.00
26	Accum.	100.00	50.00
27	Accum.	100.00	50.00
28	Accum.	100.00	50.00
29	Accum.	100.00	50.00
30	Accum.	100.00	50.00
31	Accum.	100.00	50.00

Records of Cost and Mileage

Accurate cost records have been kept by the garage. A comprehensive investigation of costs in many private businesses, where large numbers of automobiles are used, has resulted in comparisons quite favorable to the city. For the six months ended December 31, 1914, the cost per mile for each city machine was \$0.064, as compared with \$0.082 and \$0.094 by the two largest private users of automobiles. Further comparisons showed that city cars have been operated at an average cost of \$40 per month against \$60 to \$65 a month in private business, where the number of cars in service was in fair ratio to those of the municipality. For the same six months the cost items and mileage for the 38 city cars are as follows:

Labor	\$4,706.42
Gasoline	1,134.81
Oil	163.10
Tubes and Tires	2,086.10
Repairs to Tubes and Tires	83.85
Materials	985.54
Total Expense	\$9,109.82
Mileage, 141,699.	
Cost per mile, \$0.064.	
Miles per gallon of gasoline, 14.26.	

For the first year of operation, ended July 1, 1914, the average cost per mile was \$0.075, showing a reduction of \$0.011 per mile for the first half of the second year's work. This comparison is in line with data collected before the municipal garage was opened. City machines were then under individual department control.

Here are comparative costs:

Average upkeep per machine, 1911-1912 (prior to city garage control)	\$799.90
Average upkeep per machine, 1913-1914 (including overhauling and repairing)	501.17
Saving per machine (including overhauling) ..	298.73

The average cost of \$501.17 covers the overhauling of 15 cars and repairing of 12 cars. Fifteen different makes of cars are included in the present equipment.

As will be observed by the foregoing, there has been a steady and satisfactory reduction of cost.

Machine shops and all accessories for the entire care of the city machines have been installed. The service rendered includes not only washing, oiling, gasoline and tire supply and ordinary repairing, but the overhauling or reconstruction of machines, after they have been run ten thousand miles or more. Repainting, body-building and reupholstering are all done by the city garage force. Every branch of the work and oper-

ation of cars is under complete check. This is carried to a segregated cost account against each machine, the record showing in the efficiency marking system on automobile drivers.

The efficiency division of the Civil Service Commission reports:

"Accounts like gasoline, tires and larger parts are checked up monthly; time charges are checked up daily against the time put in; tire records are accurately kept and dealers are held strictly to mileage guarantees; overhauling charges are carefully estimated before work is done, to see that car is worth the expense; and complete check is kept on work of each of the men, so that they will keep up the high standard of work adopted. The value of this work is apparent, as it gives not only a check on operations, but a value on the auto equipment of the city."

Under the charter of the City of Oakland, the Civil Service Board is charged with the duty of classifying all positions in the city service which are not specifically excepted by the charter. In order that standards of efficiency shall be established and maintained, the Civil Service Board has made many exhaustive studies of needs in the service. Along this line of investigation, the question of automobile operation was given special consideration. With the cooperation of the Commissioner of Streets, the municipal garage was established in March, 1913. It is due to the Department of Streets to record that the success of the garage has been in no small measure the result of the unflagging interest taken by the department in maintaining high standards of service.

Review of Oakland's experience in this division of its municipal activities forcefully presents to the civic investigator concrete evidence of the value of coordination in city government. Under the former method of scattered control and lack of system, costs were high and results low. By the better plan of centralized control, even in the comparatively minor matter of automobile operation, there has resulted manifest improvement.

Naturally, then, thought is directed toward the larger things, and indisputably the solution of many municipal problems is found in the applied principle of coordination. This has been a dominant note in the civil service organization of the city of Oakland. That it is worth while, the record here submitted bears irrefutable testimony.

ENGLISH HOUSING FROM AMERICAN POINTS OF VIEW

(Continued from the July number)

Management of Wage-Earners' Dwellings in England

Some Impressions Gathered from the 1914 International Garden Cities and Town Planning Congress and Tour and the Subsequent Tour of the American National Housing Association

By Emily Wayland Dinwiddie

THE municipal tenements of England, as was to be expected, had a special interest for the American delegates to the International Housing Congress, since this development is practically unknown in our country.

The management in these does not give a wholly favorable impression. Some superintendents and caretakers are better than others, so that exceptions should be mentioned, but in general the management seems more perfunctory and less adapted to the needs of the individual families than in the good private enterprises. There is reason to believe that in some of the houses those in charge know little more about the tenants than whether they pay their rent.

Apparently getting high-grade caretakers is not insured by the system of control. Yet in such houses this is a matter of paramount importance. Effort is made to fill the buildings with families from unsanitary homes, who especially need supervision as to the healthfulness and decency of their living conditions. The purpose for which the tenements were built—that of bettering the home environment of the tenants—may be defeated almost more effectively by bad management than by bad construction of the houses.

In selecting tenants, the London County Council reports preference given to persons displaced by the Council's operations. In Liverpool the Health Officer's Report for

1913 says that 2,193 out of 2,825 dwellings belonging to the Corporation of Liverpool are reserved for tenants dispossessed as a result of the city's work in dealing with unsanitary conditions.

There are manifest objections to this policy. The municipal tenements, in a central location, reserved for dispossessed families, may in some cases keep in town at the expense of the rate-payers tenants who ought to move out where they can live equally cheaply and in better surroundings at their own expense. In any case the policy does not appear to insure reaching the tenants who should most properly be housed in the buildings.

As to admitting families from overcrowded dwellings to the Corporation's tenements, the Medical Officer of Health of Liverpool points out that "in a considerable number of cases the overcrowding was of a very recent date, and the offense had evidently been committed with the intention of qualifying for a Corporation house."

If overcrowding means securing to a family the opportunity to live in tenements subsidized by the city, why not produce the overcrowding?

There seemed to be some general carelessness in admitting unsuitable families to municipal tenements. A rent collector in the vicinity told me that she had known tenants whom she had found undesirable, to



AN ENGLISH GARDEN SUBURB OF A GREAT MANUFACTURING CITY—BIRMINGHAM—
WHERE PLEASANT HOMES WITH GARDENS ARE PROVIDED FOR WAGE-EARNERS

be taken into municipal block buildings, without inquiry being made of her—only to have to be evicted later from these houses, too.

The financial side of the work is also unsatisfactory. Municipal tenements and dwellings in the cities we visited were not made to pay. Some places used methods of bookkeeping which concealed deficits; others, such as Manchester and Liverpool, frankly acknowledged losses. Delays, changes in policy, cumbrous governmental methods, high charges to the city for land, all had their part in this. And rents were intentionally brought down to the slum level to meet wages. Liverpool boasted of solving its housing problem, but was taking money out of rate-payers' pockets to provide cheap homes for low paid, irregularly employed dock laborers and others in similarly ill-adjusted industries.

Employers' Housing Enterprises

Of employers' housing enterprises, Lever Brothers' Port Sunlight seemed of little importance as far as general educational value was concerned. The houses pay only the cost of upkeep and one per cent for depreciation, and tenancy in them is restricted to families of employes, retired pensioners and widows of workmen. The

scheme is one not apparently likely to be widely adopted elsewhere by employers or to be wholly approved by their work people.

The paternalism is an objection, though Port Sunlight does give pleasant, healthful homes to a large number of people who otherwise would probably be poorly housed. The community spirit is said to be good. One of the guides who conducted us through the village told a story which was a welcome variation upon the ancient "coal in the bath-tub" theme. He said that in the beginning there had even been trouble with a tenant using a bath-tub for the keeping of ducks, and how to make the families maintain proper conditions had been a serious problem; but now the training of new tenants was brought about mainly through the influence of their neighbors in the village.

At Bournville the Cadburys have recognized the importance of making the houses pay and do not restrict the use of them to their work people. There is encouragement of self-government among the tenants, and apparently more independence and initiative on their part.

The gardens and the community recreation seem very successful. The garden plots are laid out when the houses are built, and fruit trees are planted. The tenant is thus

encouraged by finding some of the work already done. There are allotment gardens in addition, as there are at Port Sunlight, too. These are reported eagerly sought after. A gardener with a staff of men is in charge and ready to give advice. There are classes in gardening. The Village Council arranges for coöperative purchase of plants and bulbs. Agricultural tools are let on hire. A loan library of books on horticulture has been formed. There is a Gardening Association with competitions and inspection of gardens. There are village flower shows.

The average net yield in produce from the garden plots is reported to be two shillings a week. There is great demand for these houses with garden space, even where living in them means a four-mile journey to and from work.

Bournville seems to duplicate on a small scale the conditions in Belgium before its devastation, with laborers living in houses with gardens outside of congested centers and every man having two trades, his regular day's labor and his agriculture, giving great benefit to the moral and physical health of the family at all times and a special resource in periods of slack work and unemployment.

Housing by Special Private Enterprises

Such enterprises as the Peabody Fund and the Guinness Trust in England expect the tenants to do more for themselves and have less done for them than is the case in our American model tenements.

In large five-story buildings of the Peabody Fund, tenants on each floor clean the public halls week about, and the Guinness Trust similarly requires the tenants to do the cleaning in turn. This is the same as the practice in London County Council tenements. The Guinness Trust includes in its "Conditions of Occupation" agreement of the tenant to color-wash his rooms once a year, the Trust providing the materials.

The occupants are penalized to some extent for soiling or injuring the premises. They have to pay the cost of replacing broken glass, as is usual in England. And in the Peabody tenements in Cambridge Circus in London, a woman living in the house explained that the office, as a rule, expected renovation of rooms once a year, for which a charge was made to the tenant, but a careful family which did not need to

have this work done at the end of the year was saved this expense.

Such requirements, though adding to difficulties of management, make for lower rents and a possibility of reaching needier tenants, though it is also true that rents in these houses are not fixed on the basis of a high return on capital.

The heads of families in the Peabody Buildings in the year 1914 were largely laborers, charwomen, porters, pensioners, carmen, warehouse-men, printers, packers and servants. The average earnings of the head of each family were between £1 and £2 per week. Rents in the Peabody tenements, including rates, averaged 5s. 3d. a week per apartment, 2s. 4d. per room.

The big block buildings of the London model housing agencies escaped, in summer at least, the dreary appearance of some of our model tenements. Flower gardens and window boxes were attractive. The larger size of the yard spaces in proportion to the height of the buildings helped to make this possible.

The Cambridge Circus Peabody Buildings in the East End were brilliant with flowers in borders and windows. Prizes, I was told, are given to the tenants for the best display of plants.

The Garden City

In parts of the Garden City at Letchworth little selection of tenants or control of tenants apparently is exercised, apart from preventing interference with the general town-planning scheme.

It is freely advertised that no special introduction to the Garden City Company is necessary before land can be taken up, and that lessees can dispose of their property or assign their leases if they wish. Lessees also do not have to be shareholders in the company. The aim has been not to provide for the very poorest, but to enable the workman who can pay a fair rent to get decent accommodation. There is a residential element of families of commercial and professional men, but the bulk of the population is made up of workmen's families.

The company generally keeps the ownership of the land, but issues ground leases for 99 years at a fixed rent, or for 999 years with the rent revisable every 99 years. Cottage building companies, such as Letchworth Cottages and Buildings, Ltd., have put up houses renting for from 4s. 3d. to 6s.

9d. per week, 5s. 6d. being a common rent.

The premises are not universally well kept. Untidy "hens' houses" disfigure some of the yards. Here and there buildings and grounds have a distinctly neglected appearance. So far as maintenance is concerned, Letchworth as a whole seems more in the class with ordinary commercial developments than with such enterprises as the Hampstead Garden Suburb and Bournville and Port Sunlight, where more rigid standards are enforced as to upkeep.

The emphasis has been laid on planning and not very much, seemingly, on the keeping of individual properties in good condition. The results show that good town and house planning alone with all the advantages they bring do not necessarily secure altogether satisfactory living conditions.

Financial returns from Letchworth thus far have been small, but this may not be true later, after the initial stage of development is past.

Copartnership Garden Suburbs

The Copartnership Garden Suburb tenants are a special group. The tenants' investment requirements of the Copartnership Societies exclude the very poor, and are said to be effective in weeding out the thriftless, the idle and the drunken. On the other hand, in these suburbs, as in other enterprises, in houses built as workmen's dwell-

ings and therefore allowed to be financed largely with government money at low interest, tenancy is limited to families below the income tax level—very greatly lower in England than with us. The garden suburbs thus do not reach either extreme. They do not house the very poorest; nor even in Hampstead, which has a number of wealthy tenants, are the residents all well-to-do families.

The tenants' self-government features in the copartnership societies have apparently worked well, except in connection with financial administration. Dangers of tenants' control here have shown themselves, the tenants through lack of business knowledge wanting in some cases, it is said, to reduce their rents to a point which would be ruinous to the enterprise.

The freedom of movement allowed to workmen by the fact that, instead of being owners of their individual houses, they are part owners in the whole scheme and can sell out to the society when they wish, is one of the advantages included in the plan.

The close relationship between the estate office and the tenants, the direct interest of the tenants as investors in the welfare of the scheme, the character of the families attracted and the stress laid upon good maintenance and upon beauty of surroundings, all help to produce the admirable results seen in the suburbs visited at Hamp-



DWELLINGS IN HARBORNE, ENGLAND

stead, Ealing, Harborne, Wavertree and elsewhere, which have at the start good town planning, good architecture, and the cheapness of intelligent collective work on an extensive scale. This large work, too, has become a center of public interest and has a constant stimulus of discriminating criticism.

The practical cheapness of the rents in the garden suburbs is difficult to measure. Comparison with American rentals is meaningless, rents like wages in England being on a totally different scale. In contrasting them with rents in adjoining cities, cost of traveling of workers back and forth must usually be considered. It must be remembered, too, that rents in these copartnership communities do not include inside repairs. The tenants must pay for these themselves, and an outgoing family must bear the cost of putting the house into good condition for the incoming one, a policy which has many beneficial results.

It seemed to be believed that, taking everything into account, the cost to the occupants of the houses was not very much greater here than it would be elsewhere, but in living in these wholesome and attractive surroundings they probably had more work in caring for the properties and perhaps some added difficulty in getting to their places of employment.

Only one of the tenants with whom we talked seemed dissatisfied. He was living in the Liverpool Garden Suburb. He had a wife and three small children. He worked long hours in the city. His wife had the care of the children. Both felt that the garden was a burden. They were willing to keep the place up in the summer for the sake of the children, but thought that in winter they would move to a house nearer the car line and without a garden, where for a slightly higher rent they could get better inside accommodations and would cease to pay for outdoor amenities.

This same man, however, said he considered the garden suburb plan ideal for families where anyone had the leisure and strength to enjoy caring for the grounds. And a typist in a house near by said it was "as good as a holiday" to her when she left her work at night to come out to the open country and flowers and trees of the suburb.

In the copartnership suburbs prizes of from £5 up are given for the best kept gardens. The results are beautiful, though they

include some surprises to our American eyes, unaccustomed to see places of honor given to mullein, goldenrod and purple beet.

The copartnership societies require that gardens be kept in good order. Hedges are cared for by the societies' gardeners until the third summer, after which the tenants are responsible for them. Satisfactory data as to returns from the garden suburbs are difficult to get. Some are in an early stage of development still. Hampstead and Ealing report paying 5 per cent, giving the tenants dividends on rent and having money to set aside for other purposes after meeting all fixed charges. But we must not forget that the copartnership societies are able to get money on easy terms from the Public Works Loan Board.

Octavia Hill Work

Of the English agencies visited which attempt model management, none seem to reach poorer tenants than do the workers following Miss Octavia Hill's methods.

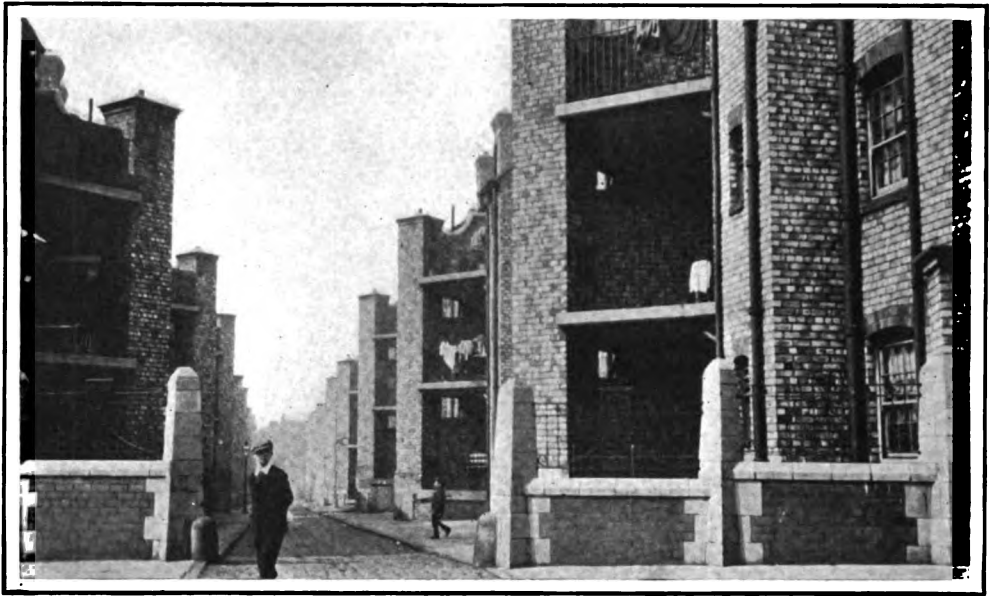
They told me of rents of 1s. 6d. per week for a one-room apartment. (The lowest rents in the Liverpool Corporation tenements for dock laborers are 1s. 9d. per week for one room.) Their tenants spoke of Hampstead as being made up of palaces for millionaires.

Recognizing that housing has its human side and is not merely a matter of bricks and mortar and dollars and cents, these former associates of Miss Hill, still continuing the work since her death, get through close personal supervision surprising results with a difficult class of untrained, very poor Londoners.

Yet the houses I saw had had but little equipment given them. They had no baths. They had sometimes only one toilet for five or six families. Only minimum requirements as to overcrowding were enforced. But they did have some "amenities." Tiny cottages had flower borders in the back yards. Even the tenement houses had some charming yards.

In improving and managing existing houses, these ladies do much without the capital which would be necessary for new buildings.

The returns to the landlord vary. Miss A. M. Covington said that she charged the owners 4 per cent on income for management of the newer houses, 5 per cent for the older ones. Elsewhere in some cases I



CORPORATION DWELLINGS IN LIVERPOOL
 Rear of Eldon Grove (Bevington Street houses) from Limekiln Road



CORPORATION COTTAGE FLATS (TWO-FAMILY HOUSES) ON HENRY EDWARD STREET, LIVERPOOL

Entrance to upper flats is by stairway at end (see beginning of hand rail), and then by gallery along the rear of the row

am told the work is done on a salary, or the per cent charged may be higher in the case of rundown properties housing extremely poor tenants.

Miss Covington did not always know what return the owners got, not knowing herself the value of the property. Throughout the work in general, the 4 to 5 per cent to the owner which Miss Hill reported years ago and Mr. Nettlefold more recently, is not universally obtained. Some old, worn-out houses only bring about 2 per cent, I understand.

Prompt payment of rent is insisted upon as essential to the purpose of building up the tenants' self-respect, giving good management and yet securing a fair return in spite of low rentals.

In England there is much to interest the American student not merely in the developments I have mentioned, but also in many special features of English housing management which cannot be discussed in this brief article, such as the effect upon maintenance of fairly homogeneous racial conditions and continuity of environment and

economic status of the tenant, the effects of climate, the small fire loss and water waste, and the universal weekly rents for wage-earners. There are also the difference in the tax system—the English taxing the income, the Americans the capital value; the total difference in the common types of buildings in the two countries; the comparative freedom of English cities from evils of lack of adequate means of lighting and ventilation; the different standard of what constitutes normal good housing; the further progress of town planning in England; the difference in the lines of activity followed by the health and building authorities.

Nothing was more clearly brought out in the Housing Congress and Tour than that English and American conditions are totally different, and that the differences may well necessitate variance in plan of management.

Americans can learn much from both the failures and the successes of the older country, but it is very doubtful whether English remedies would always prove the most satisfactory cure for American ills.

English Housing from American Points of View

A Comment by Thomas Adams

To the Editor of THE AMERICAN CITY:

As a Briton I have been interested in reading the two papers by Mr. Edward M. Bassett and Mr. Maurice R. Scharff, with which you introduce the above subject in your July issue. I would like to express appreciation of the care and sound judgment they have shown in studying English conditions.

Mr. Bassett says that "Workingmen dwell in small homes with access to the soil" to a greater extent in London than in any city he knows of. I think that would be the experience of anyone with regard to cities of over half a million population in any part of the world. He is also right in saying that that satisfactory condition is made practicable by the excellent transportation system of London.

But we must be careful not to assume that the wide distribution of population in London is the result of the network of transportation systems. The two have de-

veloped contemporaneously and the one is complementary to the other.

The first condition to secure wide distribution of population is to have land near the city cheap and unhampered by speculative interests. This condition is requisite to enable the worker to get advantages in the suburbs which will compensate him for two disadvantages in moving out from the central districts, viz.: (1) sufficient saving in rent and taxes to pay for his extra cost of traveling, and (2) sufficient attractiveness in his environment to compensate for his daily journey to and fro and his loss of social attractions. The development of the transportation also requires that the public and not the private land speculator will get the advantage of these facilities in regard to cheap and attractive land.

If the people get the land without the interference and heavy charges of sub-dividing middlemen, and if it is laid out and planned in an attractive way and not in

unbroken chessboard pattern, it means that they will spread out in sufficient numbers to make it worth while for railway and omnibus companies to extend their systems. In brief, the people are prepared to pay the companies which provide for their transportation the difference between the annual cost of the dearer home site in the center and the cheaper site in the suburb. If, however, the private speculator succeeds in getting all the advantage of every railway enterprise by making a "corner" of all the land nearest to railway stations, or adjoining street railways or bus routes, and "boosting" it for all it is worth before it is ripe for building, the public incentive to spread is thereby killed. It seems to me that the comparative freedom of England from highly organized land speculation has enabled railway and other companies to extend their systems with profit, and at the same time has encouraged the wide distribution of population. Low fares encourage distribution—but they are only possible when the distribution is unhampered in other directions. There must be an all-round encouragement for people to move out, and the first essential is that land shall be obtainable in small quantities at wholesale rates.

May I suggest one reply to the suggestion that English gardens are easier kept because the climate is moist? In America growth is much more rapid than in England, and having had experience of both I think the *pros* and *cons* about balance each other.

With regard to Mr. Scharff's article, I agree generally with the results of his examination of the factors which contribute to the cost of housing in England. The differences in the cost of construction and in return on capital are considerable, and it is unfair to assume that houses could be provided in America as cheaply as in Eng-

land, even although land is more plentiful and should therefore be cheaper—unfortunately it is not—for building purposes. On the whole, I think it is correct to make the comparison by starting with wages paid in each country as a basis. In both countries workingmen pay a certain percentage of their weekly wages in rent and taxes combined. What is that percentage and what standard of comfort do they respectively get for it? I think an answer to that question by the housing investigators would be most helpful. To give an incentive for an answer to be given from the American point of view I will venture the following statements in conclusion:

1. Land development and housing cannot be separated, and when considered together the *modern* English standard of construction and sanitation is higher and the percentage of wages paid for shelter is less than in America—account being taken of the different standards and conditions.

2. Such advantages as the English system of land development and housing do possess are primarily due to the better safeguards of the English system produced by its public health legislation and its excellent system of municipal government in controlling building development, in spite of an antiquated land system. These safeguards have the effect of keeping land values at a healthy level, encouraging facilities for transportation, preventing graft and extravagance in regard to local improvements, and discrediting ownership of unsanitary dwellings.

What I have said above will be found to be supplementary and not contradictory to the conclusions of Mr. Bassett and Mr. Scharff, as on the whole there is nothing in their two papers with which I disagree.

THOMAS ADAMS,
Town Planning Adviser, Commission of
Conservation, Ottawa, Canada.

A third installment of the series of articles by George Burnap on Park Design will be published in the September number. This will be entitled "Architecture in Parks." Articles by Mr. Burnap already published are, "Park Design in City Planning" (in the June number) and "Passing-Through Parks" (in the July number).



CHILDREN AT PLAY NEAR STATE CAPITOL IN BUSHNELL PARK, HARTFORD

The Recreation Features of the Hartford Parks

By David W. Nichols

HARTFORD, CONN., famous throughout the country for the beauty of its park system, is conspicuous in the movement for making the parks something more than places of beauty. These parks constitute fully one-twelfth of the city's area, the acreage being 650,628. This is exclusive of Keney Park, which is privately owned and controlled but available to the public. Over \$3,000,000 is invested in the park system, which is distributed over the city in twenty different plots. About 40,000,000 hours of service a year are required by the parks, and the cost of this service is about \$300,000 a year.

The Demands of Public Recreation

There was a time when the public professed itself as satisfied with the beauty of these parks and with their adequacy for accommodating large numbers of visitors during the summer season. The modern idea has come to be that the parks must be places of recreation as well, and probably no city in the country was quicker to grasp

the idea or more prompt to respond to the demand than Hartford. Playgrounds have been installed and other recreational facilities added until the parks of Hartford today represent a series of well-ordered playgrounds.

The principal parks are: Bushnell, in which the magnificent state capitol stands on a slightly elevation; Goodwin, the home of the golfers and picnickers; Colt, the great playground of them all, where baseball, tennis and many forms of recreation are indulged in; Riverside, which lies along the Connecticut river and contains a speedway and playgrounds; Elizabeth, the beauty spot of Hartford, with flower displays attracting people from every section of the country and with various forms of recreation and amusement. The total recreational expense is estimated at about \$62,000 annually.

Two years ago a supervisor of recreation was appointed by the Court of Common Council, and his work has resulted in a liberal enlargement and improvement of



FREE PUBLIC GOLF LINKS, GOODWIN PARK, HARTFORD, CONN.



ENJOYING THE SLIDE AT COLT PARK, HARTFORD

the recreational facilities. That these parks can be made practically self-supporting in time, if the city desires to make them so, is the opinion of those intimately connected with the development of the system.

At Elizabeth Park there is, at the present time, a large house, donated several years ago, in which are sold during the summer season ice cream, candy, sodas and other things which find ready purchasers. The sales there during the past year aggregated about \$1,500. At Goodwin Park the golf links yield an income of about \$800, the money coming from the charges made for lockers. No charge is made for playing. The recent reports of the park department show that the recreational activities of the parks have increased about forty per cent each year during the past five years.

At Colt Park there are twenty-six baseball diamonds which are used by all manner of baseball leagues, including the schools, churches, insurance companies, bankers, shops, stores and others. There are eighteen tennis courts which, during the season, are kept in almost constant use; ten of them are at Colt Park, six at Pope Park and two at Elizabeth Park. There are nine football gridirons distributed in five parks, Colt Park having four of them. Goodwin Park has two nine-hole golf courses, and on these links are held annual tournaments for the city championship and for championships in other leagues. Bowling on the green and Scotch quoits and croquet have proved popular at Colt Park. New features this year include a quarter-mile running track in Colt Park for the school games, and two new tennis courts in Goodwin Park. The summer school gardens, where the children have plots of their own in which to learn the rudiments of gardening, occupy space in Colt and Riverside Parks.

One of the latest and most enjoyed features of the recreational activities has been dancing on the green to band music. Many parties and organizations have seized upon the innovation and made it a success by their large and regular attendance. On the plateaus at Pope Park the children and the grown-ups of the factory district frequently gather to engage in this recreation. The schools have taken hold of the park dancing features, and the beautiful May-pole and folk dances by the school children annually afford pleasure to many thousands. Bright lights make evening work possible in the

modern gymnasium at this park. The gymnasium has been very popular, as have the swings; over 71,000 took advantage of these privileges last year. A wading pool nearby furnishes a place where the children can splash about in safety.

Picnic parties, large or small, are extended every courtesy and attention at all the parks. Elizabeth Park is the chief rendezvous, with Goodwin Park a close second in favor. Here a public fireplace secreated by a group of fir-trees is a popular spot. On the field-days of 1914 more than 80,000 people were cared for in the parks. Shower baths are not as near some of the parks as they should be, but they have been well patronized. In the winter season the parks invite lovers of skating, hockey, curling and coasting.

The Public Appreciation

Does the public appreciate what the Hartford parks are trying to do for it? The following figures, which show the number of permits issued during 1914 for participation in the various sports and events, tell the story: tennis, 2,639; baseball, 1,736; football, 83; parties, 103; picnics, 38; fireplace users, 15; total permits issued, 4,614. In some instances the regulations governing the use of certain playgrounds specify that the grounds may be occupied without a permit until others who possess permits lay claim to them, so that the accommodations have been used even more extensively than the figures would indicate.

The recreation attendance at the parks from April 1, 1914, to January 1, 1915, was estimated at 1,827,435. The cost was \$22,-837.68, or a per capita cost of \$0.0124. In that period 69,700 automobiles visited the parks and 74,800 persons attended band concerts. Baseball drew 326,248, miscellaneous games 191,510, playgrounds 290,116, rose gardens 116,969, skating 22,099, tennis 34,546, golf 51,761, and the Fourth of July celebration 55,000.

A new project which the city is now contemplating is the erection of a substantial pavilion at Colt Park that will provide floor space for hundreds of dancers and include shower baths and space for athletics. If this plan is carried out, it will probably result in an extra source of revenue from the parks, as there is a strong sentiment which favors charging a small fee for the dancing



WADING POOL AT POPE PARK, HARTFORD

privilege. The installation of this pavilion will undoubtedly help the social condition of the city to a large extent.

The Expense

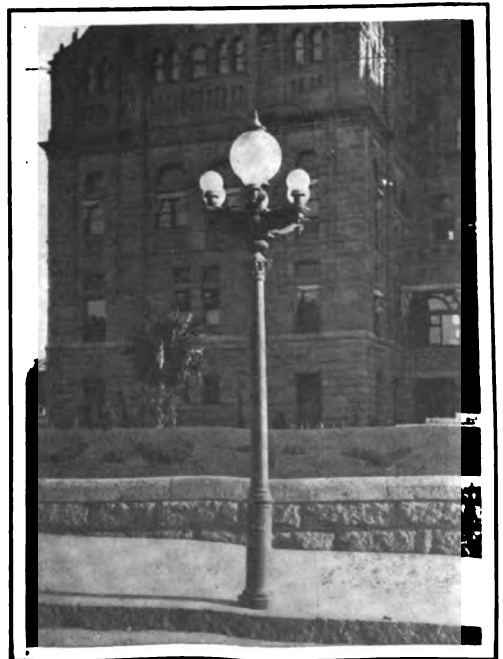
The growing demand for recreation features in connection with park work has forced a big problem upon the cities—the problem of an overwhelming expense. That the public must in some way and to some degree be required to pay for the privileges it enjoys is an opinion shared by many of the leading park men of the country. Superintendent George A. Parker, of the Hartford Park system, took up this subject in his last annual report and said:

“With the increased demands and needs of municipal recreation it will mean a corresponding increase in cost and larger amounts for the taxpayers to provide for, if the present method is continued. It is quite probable that cities would continue to furnish the increase of money needed, for they receive full and immediate returns in a way that appeals to their hearts in the care of their children, and to their comfort and pleasure in their daily lives. Yet it seems to me that there should be a clear distinction made between the supplying of opportunities for recreation and supplying enter-

tainments and amusements. The first should be paid for by the city, the second by the individual which receives the benefit, or, by comparison, it might be said that the city should supply the stove and wood, and the individual should do the cooking and furnish the food consumed. Under our present system, it seems probable that full municipal recreation service might become almost impossible, on account of its cost and magnitude, unless a more rational system is adopted. I believe it can be fully demonstrated that so much of municipal reaction can be made self-supporting as exceeds the cost of ordinary park maintenance and service.”

Hartford has always been proud of its parks and has given them hearty support. The Hartford Board of Trade is one of the organizations which has always been deeply concerned in the development of the park system, and that body can also claim some credit for the present efficiency of the recreation features. In fact, Henry C. Dwight, a former president of the Board of Trade, when he was mayor of the city—1890-1892—took a firm stand in favor of extensive recreation facilities at the parks. At that time many of his ideas were referred to as dreams, but happily he has lived to see his recreation dreams become realities.

Ornamental Lighting Standards in Los Angeles, Cal.



An Auto-Car Power Water Main Valve Operator

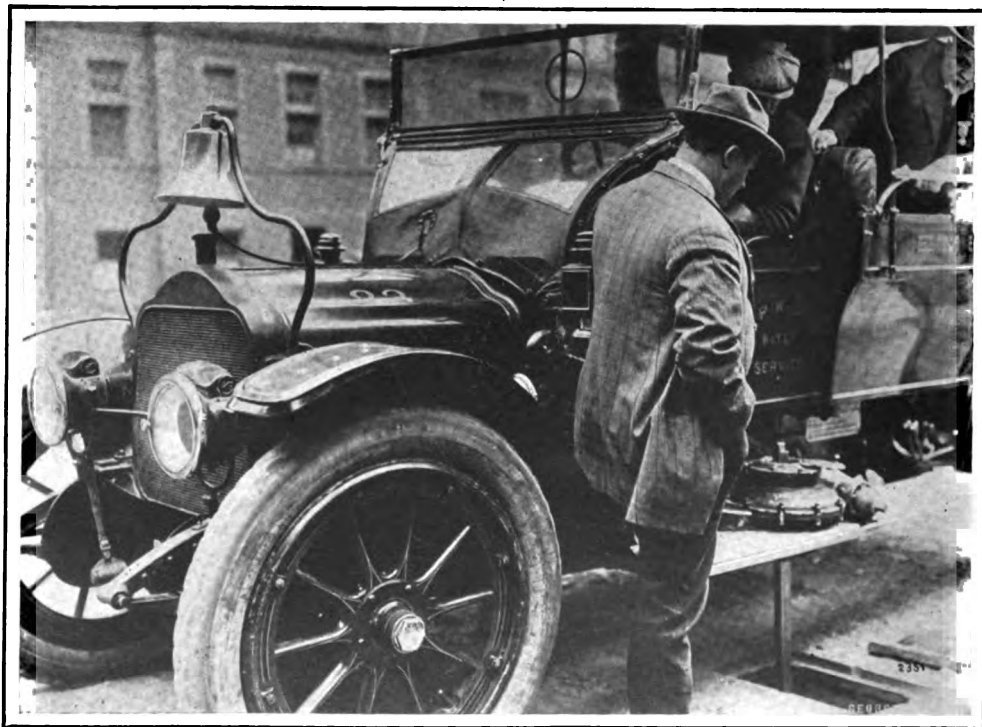
By Frank C. Perkins

BURSTING water mains are not so great a menace to life and property in the city of Boston since the water department installed a motor truck with a power appliance for quickly closing the heavy gates. Work which formerly required four men laboring continuously for forty-five minutes, can be done in ten minutes by using the power of the truck. This mechanical device, an invention of George H. Finneran, superintendent of the distribution branch of the water department, not only conserves the water supply and reduces the damage due to breaks, but it permits of rapid regulation of water volume at fires, lifts the limitations of physical endurance, facilitates the testing of gates and relieves the anxiety always attending derangement or damage to the water system.

It is pointed out that in one of Boston's most important thoroughfares, lined with costly buildings, there is a water main

which, if completely broken apart, would allow the escape of 50,000 gallons of water each minute. Controlling this line are gate valves 36 inches in diameter which, in closing, require 307 turns of a gate wrench and services of four men for about forty-five minutes. A few minutes' delay sometimes means the loss of life and thousands of dollars. These gates, the largest in the city, can now be closed in ten minutes by one man and the White truck.

It may be stated that this truck is required to respond to fire alarms and other emergencies where water must be controlled to prevent loss or damage. The calls are frequently overlapping and crews are on duty day and night. Boston is 15 miles in greatest length and 9 miles wide, and the runs vary from one block to the farthest end of the water system. Under the old scheme, when several gates had to be closed, the few men available at night were almost ex-



CLOSING GATE VALVES BY MEANS OF A MOTOR TRUCK POWER OPERATOR

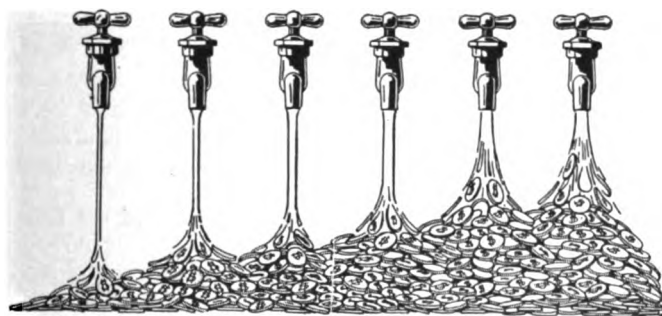
hausted before shutting the last gate. By its ability to work continuously the truck has relieved the fear of being unable to cope with any emergency.

It will be seen that the gate-closing device consists of a universal wrench socket with a worm gear enclosed in an aluminum housing and mounted on the running board of the truck, so that it can be easily brought into position immediately over a water-gate manhole. When the truck is in position, a wrench is slipped through the socket. This wrench fits the nut on the gate-gear below. The universal wrench socket, together with a universal joint on the end of the wrench, affords sufficient flexibility in case the truck is not on level ground or in case the wrench socket is not directly over the gate nut. It is an easy matter, however, for the driver to bring his truck into the exact position.

The worm gear is driven off the regular transmission of the truck. The device is

operated by a lever placed upon the side of the truck and easily accessible to the driver. In closing gates the forward speeds of the transmission are used; in opening the reverse is used. The gates are equipped with indicators showing the position of the valve and informing the operator when the valve is seated or entirely opened. Where indicators have not been attached to the gates, a counter is used. This counter is placed on the end of the wrench, recording the number of its revolutions. This helps the operator to determine when the valve is entirely up or down. As a means of safety in the event of the valve seating with force or before the operator expected, a pin of known strength, placed in the universal joint of the wrench, breaks off and breaks the line of force between the engine and the gate, thus preventing damage to either the gate or the gate-operating device and acts as a safety device.

A Graphic Method of Showing the Money Cost of Leaky Faucets



Under Average Water Rates and Pressures This is the Way That Leaks Run Into Money

Each 1-64 inch leak wastes 2 gallons per hour and costs	-	-	1c per day
Each 1-32 inch leak wastes 8 gallons per hour and costs	-	-	5c per day
Each 1-16 inch leak wastes 34 gallons per hour and costs	-	-	21c per day
Each 1-8 inch leak wastes 137 gallons per hour and costs	-	-	86c per day
Each 1-4 inch leak wastes 514 gallons per hour and costs	-	-	\$ 3.21 per day
Each 1-2 inch leak wastes 2057 gallons per hour and costs	-	-	\$12.84 per day

Illumination of Building Exteriors by Projectors

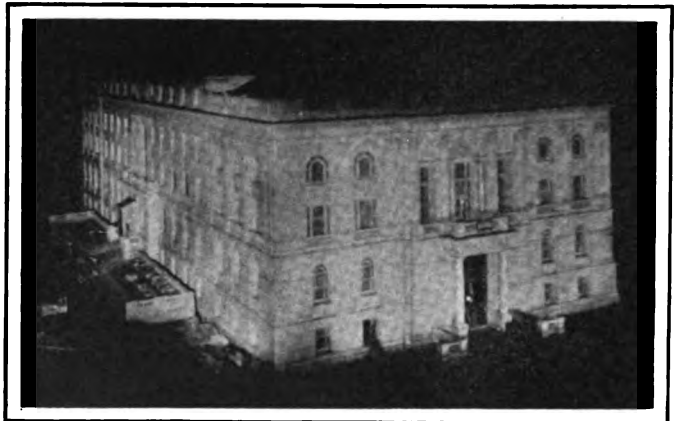
Many gems of architecture are lost to view several hours of the day. Public buildings of note with their beautiful and intricate tracery of stone or their dignified simplicity of outline can now be enjoyed and appreciated by night as well as during the daytime.

A flood-light projector has been designed by the General Electric Company to give this economical and brilliant illumination. It consists of a highly polished aluminum parabolic reflector, 16 inches in diameter and mounted in an iron frame. The front is covered with curved heat-resisting glass. This is clamped to the reflector frame and packed so that the whole unit is thoroughly water-proofed and can, therefore, be operated out of doors. All exposed parts are either non-corroding alloy or weather-proof-coated. The projector itself is well ventilated by a current of cool air which enters near the base of the lamp, circulates around the stem and bulb and passes out at the front edge of the reflector.

The installation of the outfit is very simple. The most convenient location within a distance of from 25 to 500 feet from the surface to be lighted is selected and the projector bolted or screwed in place. It may be located on the roof of a building, the side of a wall, or mounted on brackets on a telegraph pole. The base of the projector has slotted bolt-holes, which permit of a slight adjustment before the final location is made. Since the power consumed by the lamp is only 500 watts at 110 volts, the projector may be connected to an ordinary lamp circuit. The entire outfit weighs about 30 pounds.

The lamp most commonly used is a 500-watt focus-type Mazda "C" lamp in a "G-40" bulb with a mogul base. The focus-type lamp has its filament concentrated into a very small space and, by locating the

filament at the focal point of the reflector, a narrow beam of light may be projected a great distance. If, however, the surface to be lighted is close to the projector, the lamp filament should be located behind the focal point of the reflector (drawn further into the reflector) in order to spread the beam sufficiently to cover the surface. The beam may be concentrated to about 6 degrees divergence with an apparent candle-power in the center of slightly over 400,000 by locating the filament exactly at the focus; or, by drawing the filament behind the



MUNICIPAL BUILDING, HARTFORD, CONN., AT NIGHT
Lighted with 500-watt Mazda stereopticon lamps in 16-inch parabolic reflectors

focus, the beam may be spread to 18 degrees, with an apparent candle-power of approximately 150,000 in the center of the beam.

The locating of the filament at the focus is accomplished by directing the beam on any convenient surface 100 to 150 feet away and moving the lamp backward or forward until the smallest spot of light is obtained on the lighted surface. When this is determined, the focusing device may be locked by tightening a clamp provided for that purpose. This keeps the lamp from moving after it has been adjusted. With the projector located 100 feet away and the beam concentrated to six degrees, the minimum spread of about 10 feet will be obtained with an average intensity across its diameter of 30 foot-candles. By spreading

the beam to 18 degrees, the maximum spread will be about 30 feet, with an average intensity of 6 foot-candles. If two projectors are trained on the same area, the intensity will be doubled; if the two are trained side by side, keeping the intensity constant, the area lighted will be doubled.

For lighting long, narrow surfaces, it is desirable wherever possible to locate one projector at an angle at each end. For flood-lighting the fronts of buildings, it is desirable to locate the projectors at several different points, so as to eliminate the sharp

shadows which might result if all the light came from one direction. The beam of the projector is conical and, if it is directed perpendicularly, it will light up a circular area; but, if it strikes the surface at an angle, the area lighted will be elliptical.

The projector requires no attention whatever beyond an occasional rubbing up of the reflector and replacing the incandescent lamp at the end of its life. This class of lighting opens up an attractive field to the central station, since the load is steady and occurs for the most part "off the peak."

Specifications for Patented Pavements

"SPECIFYING and Adopting Specifications for Patented Pavements and the Methods of Calling for Bids Thereon" is the title of a pamphlet published last month by M. T. Calef, Road Engineer of the Rocmac Road Department, Philadelphia Quartz Company. The study of the subject embodied in this pamphlet was undertaken for a thesis submitted as a partial requirement for the degree of Master of Arts, recently conferred on the author by Columbia University in its Graduate Course of Highway Engineering. The concluding paragraphs of the thesis follow:

A short summary, perhaps not entirely complete, of the present methods of dealing with the patented pavements, would be about as follows:

The type of pavement or road to be constructed may be selected: First, by petition from property holders, the size of petition being a local problem, this selection being made either previous to calling for bids or after the bids on several types have been opened; Second, by the engineers, acting with their municipal employes (Council or Commission), specifying a certain type or types, or by the selection of some one type after the bids are in on the several types considered.

The specifications adopted may be:

1. Those drawn entirely by the engineer representing the patentee, in which case they usually make possible and embody the benefits derived from the extensive laboratory and practical experience of the proprietor.

2. By the mutual cooperation of the engineers representing the patentee and the municipality.

Each of these two sets of specifications should contain some standardized tests of quality of material to be used, in order to give some information for the guidance of the purchasing engineers.

In making provisions for the use of a patented pavement, license agreements should be filed with the municipality. The contractor should possess a somewhat similar licensee agreement before his bid is submitted.

This agreement to permit the city to benefit by the patent should be filed with the specifications for each separate bidding or contract and should stipulate a standard price for some definite quantitative unit measure of material at which price each and every contractor may obtain the article or the rights to construct the same. This price or royalty may be paid to the patentee either by the municipality or the contractor, if in which latter case it would appear as a constant, common to the bid price submitted by each bidder.

The method of calling for bids may be under that of "open specifications," "closed specifications," "alternate bids," or some other method peculiar to a given municipal or private organization.

The letting of the contract should be in accordance with the method of bidding—that is, to the lowest responsible bidder, or according to the engineer's conscientious selection in which price and economy, quality and adaptability are the only influencing conditions.

From a careful study of the information and opinions contained in the communications received in response to the inquiries sent out, it is evident, if the opinions of those replying can be considered as representative of the common opinion of the men in charge of road and street construction in this country, that the greater majority are not opposed to the use of patented pavements, when the particular material is adaptable to the prevailing conditions, and sufficient competition can be had.

It is very certain that few engineers are so prejudiced against patents that they will not use a particular patented article when by doing so they can obtain better results than with one not patented.

In other words, engineers in both public and private service are desirous of utilizing those products enabling them to secure the most economical and efficient results. This should certainly be the aim of every engineer, as it is really the underlying principle of the engineering profession.

Copies of the complete thesis in pamphlet form may be secured free of charge on application to the author at Philadelphia.

Referendum on International Peace

FOLLOWING an important decision reached at a recent meeting of the board of directors of the Chamber of Commerce of the United States, business men and civic workers throughout the country will be given a chance to express themselves as to plans for insuring greater stability of international conditions at the conclusion of the war. Edward A. Filene, of Boston, chairman of a special committee to present the subject, declared that the United States should be among the first to consider these principles, particularly with regard to establishing an international court, and express opinion concerning them.

Accordingly, it was voted by the directors that a referendum be taken by the National Chamber to extend to every state in the Union, Hawaii, Porto Rico and the Philippines. Thus upwards of six hundred commercial bodies, comprising a membership of over 250,000, will have an opportunity to consider whether or not it is desirable for the United States to join a league of all the nations binding the signatories to the following:

(1) All justiciable questions arising between signatory powers, not settled by negotiation, shall, subject to existing treaties, be submitted to a judicial tribunal for hearing and judgment both upon the merits and upon any issue as to its jurisdiction of the question.

(2) All other questions arising between the signatories and not settled by negotiation, shall be submitted to a Council of Conciliation for hearings, consideration and recommendation.

(3) The signatory powers shall jointly use forthwith both their economic and military forces against any one of their number that goes to war or commits acts of hostility against another of the signatories before any question arising shall be submitted to the tribunal council as provided in the foregoing.

(4) Conferences between the signatory powers shall be held from time to time to formulate and codify rules of international law, which, unless some signatory shall signify its dissent within a stated period, shall thereafter govern in the decisions of the judicial tribunal mentioned in the first article above.

The members of the Committee, besides Mr. Filene, are George Roberts, of the National City Bank, New York; P. H. Gasden, of the Charleston Railway & Light Company, Charleston, S. C.; Herbert S. Houston, of Doubleday, Page & Co., New York; Herbert A. Meldrum, President of the Meldrum Company, Buffalo; Paul H. Saunders, a banker of New Orleans, and Homer H. Johnson, former President of the Cleveland Chamber of Commerce. On presentation of the war condition resolution, and after President John H. Fahey, of Boston, had sanctioned the sending out of a referendum, the following committee was appointed to assist in the preparation of the important document: Joseph H. DeFrees, of Chicago; Hon. Charles Nagel, former Secretary of Commerce and Labor, of St. Louis; R. G. Rhett, of Charleston, S. C.; Howell Cheney, of South Manchester, Conn.; and John Joy Edson, of Washington, D. C.

A Study of Occupational Diseases

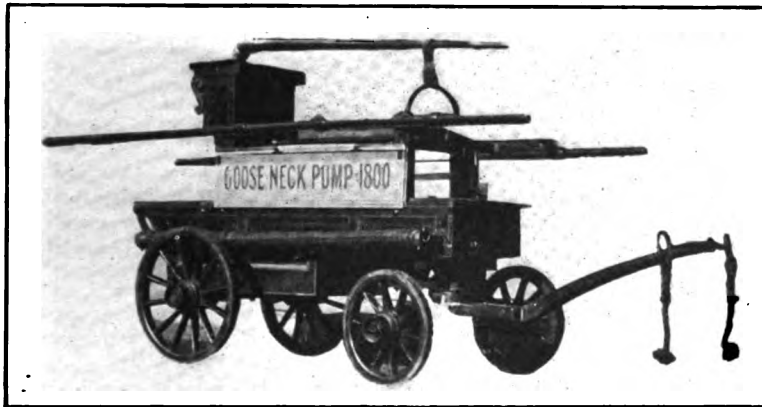
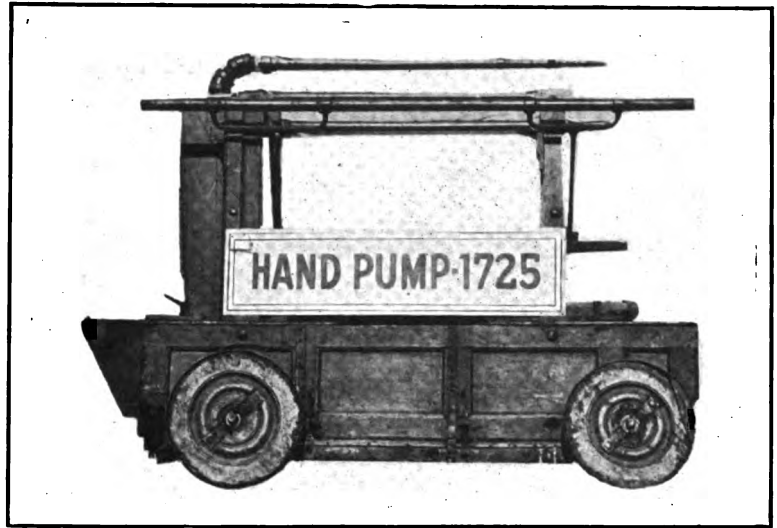
"Industrial Health-Hazards and Occupational Diseases in Ohio" is the title of a report issued recently by the Ohio State Board of Health. The survey upon which the report is based was made under the direction of Emery R. Hayhurst, A. M., M. D., Director of the Division of Occupational Diseases of the Ohio State Board of Health.

Although the investigation was popularly termed "The Occupational Disease Survey," an attempt was made to go deeply into the subject and determine the underlying causes which contribute to the "unnecessary sickness and shortening of life" which appear to be due to attempted or forced adaptations to unnatural environment. The report therefore deals largely with industrial hygiene (of the work place, not of the

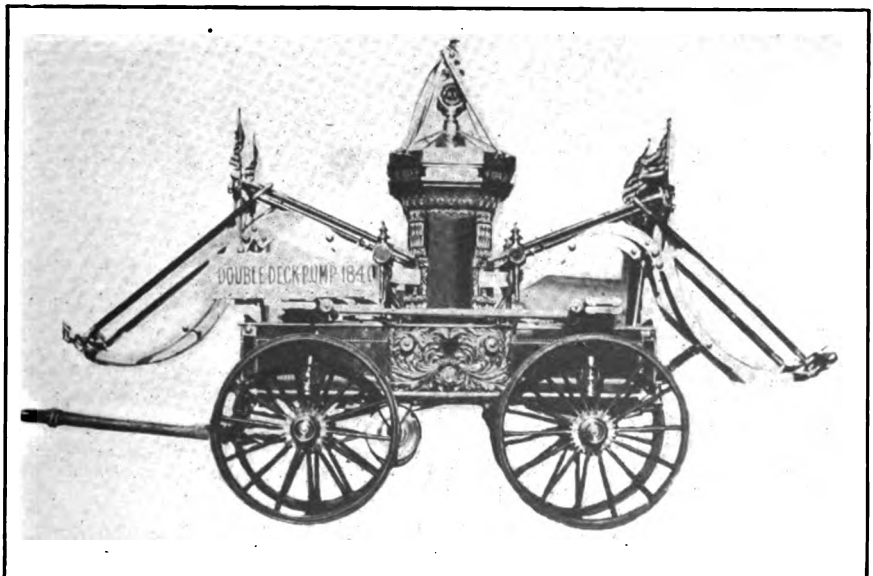
worker's home and other outside factors), and the extent to which health hazards have been found to exist in the principal industrial processes in the state. The prevalence of occupational complaints and diseases was not overlooked, however, as may be seen from a scrutiny of the context.

There are chapters upon "General Principles of Industrial Hygiene," "Industrial Health-Hazards," "Health-Hazardous Processes" and "Special Processes." There is a classification of "Occupational Diseases and Complaints by Industries and Processes," and a chapter upon "Measures of Prevention." The book contains 438 pages and is copiously illustrated. Copies can be obtained by writing to the Secretary of Ohio State Board of Health, Columbus, Ohio.

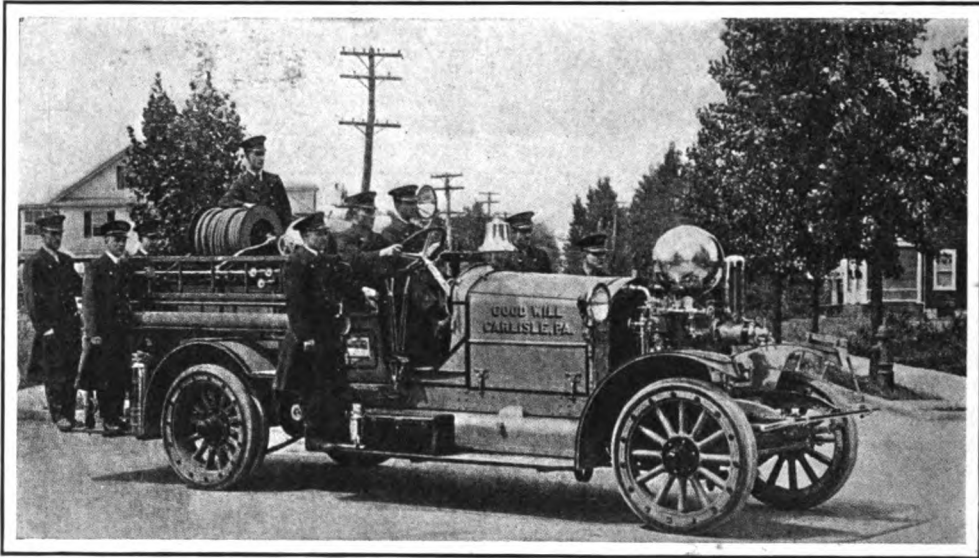
**Showing the
Development
of the Now
Obsolete
Hand-
Pumping
Fire
Apparatus**



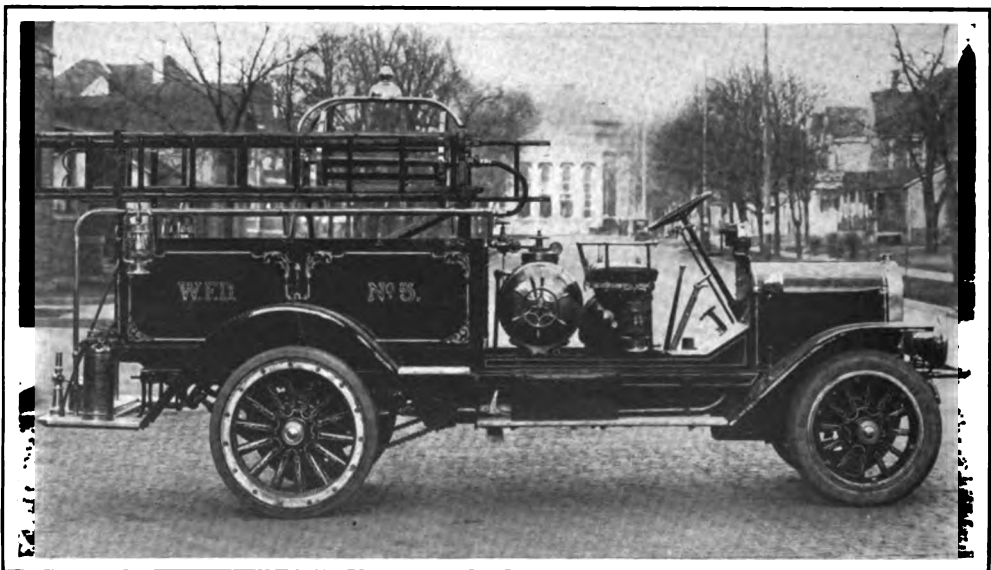
The slowness of the improvement here shown stands out in sharp contrast to the rapid evolution of modern motor fire apparatus, some recent types of which are shown on the two following pages.



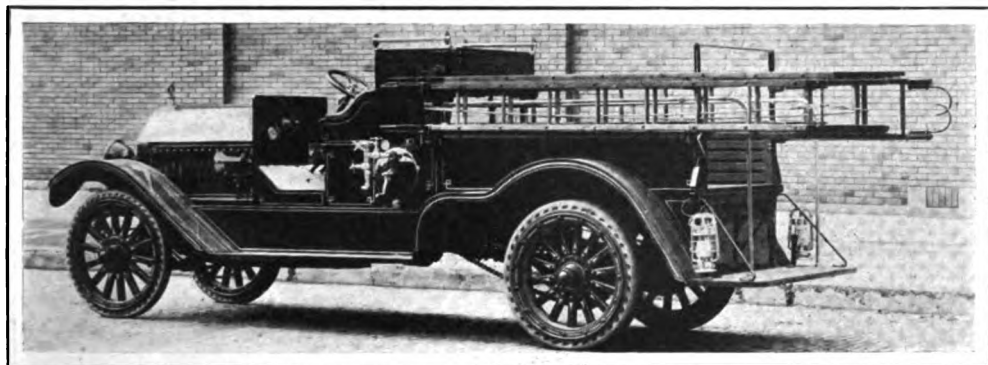
These Cities Are Proud of Their Automobile Fire Apparatus. Is *Your* City Properly Equipped?



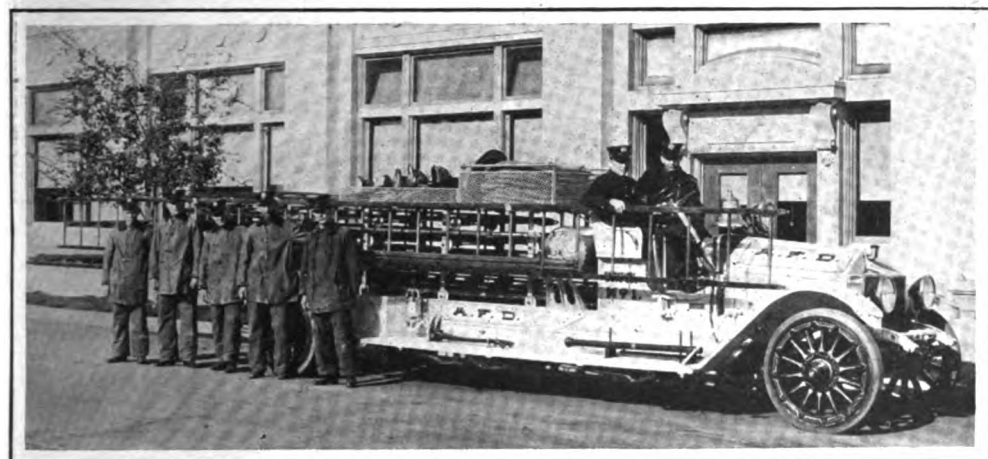
AHRENS-FOX PISTON PUMPER AT CARLISLE, PA.



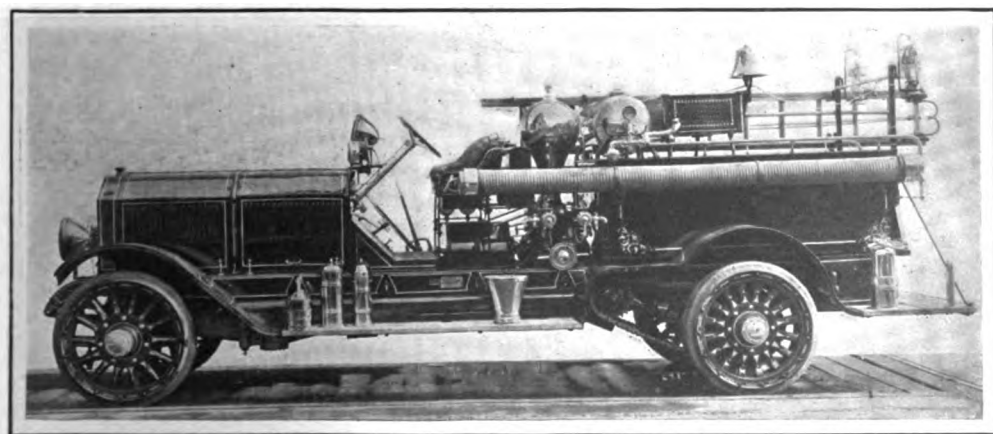
DART COMBINATION FIRE TRUCK IN USE AT WATERLOO, IA.



SOUTH BEND COMBINATION CAR WITH DRAW-BAR FOR TOWING STEAM FIRE ENGINE AT MANITOWOC, WIS.



BOYD CITY SERVICE TRUCK, ALHAMBRA, CAL.



AMERICAN-LA FRANCE TYPE OF PUMPING ENGINE AS USED IN ELIZABETH, N. J.

Two Modern Types of Fire Stations



BUNGALOW FIRE STATION, DENVER, COLO.

Built on park land at Twenty-second Avenue and Colorado Boulevard. On one side of the building are the captain's office, two rest rooms for the firemen and a kitchen, while the other side is equipped as a dormitory. There is a full basement where coal and fuel for the truck are stored.



NEW FIRE STATION AT AMARILLO, TEXAS

This building, erected at a cost of \$15,000, has enabled the city to secure a reduction of 12 cents in its insurance key rate

PRIVATE GIFTS FOR PUBLIC PURPOSES

EDITOR'S NOTE.—Under this heading THE AMERICAN CITY purposes to publish from time to time articles regarding notable or unique gifts from individuals in behalf of municipal progress or social welfare. Photographs and information for this department are requested.

For the Welfare of the People of Pittsburgh

The Sarah Heinz House

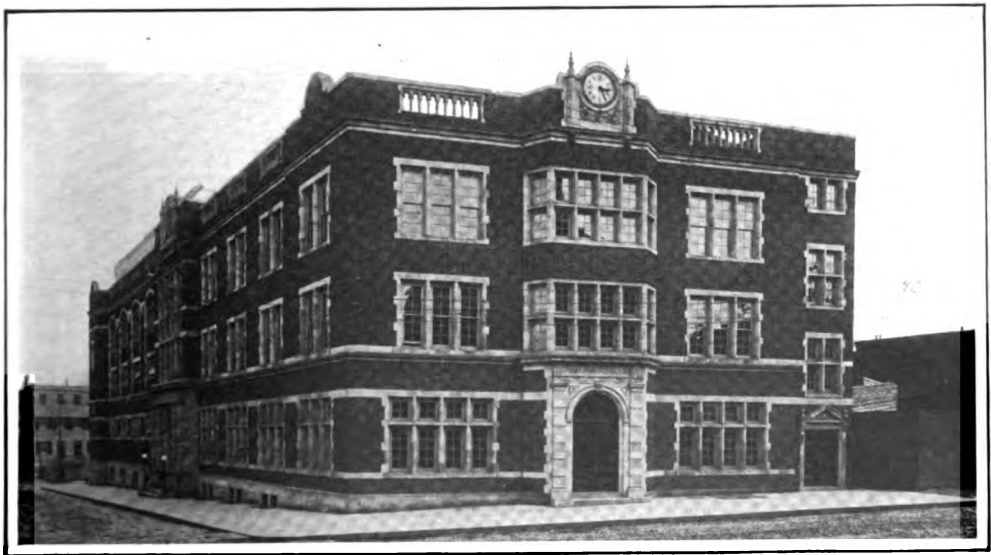
One of the most unique and successful social uplift institutions in this part of the country recently took up work in its new home, when the dedication exercises of the Sarah Heinz House, North Side, Pittsburgh, were held in the auditorium of the new building.

The work of the Sarah Heinz House was begun fourteen years ago in three small rooms. Its objects were the development and training of character in the young men of the community. On the opening night three boys were present, and on the second night twenty. The increase in interest and membership advanced at such a rapid pace that the whole house was soon turned over

for the use of the boys. Two years later the girls claimed recognition and were organized into two groups, according to age. Since the beginning of the club the work and play have been under the supervision and direction of competent men and women.

The present plan in the House is that of dividing the boys into numerous small clubs, each of which has its own rules and requirements for membership. The House is almost entirely self-governing. Smoking, drinking, swearing, and all other vices are discouraged. The boys are given an opportunity for both recreation and work, and the girls are also well taken care of.

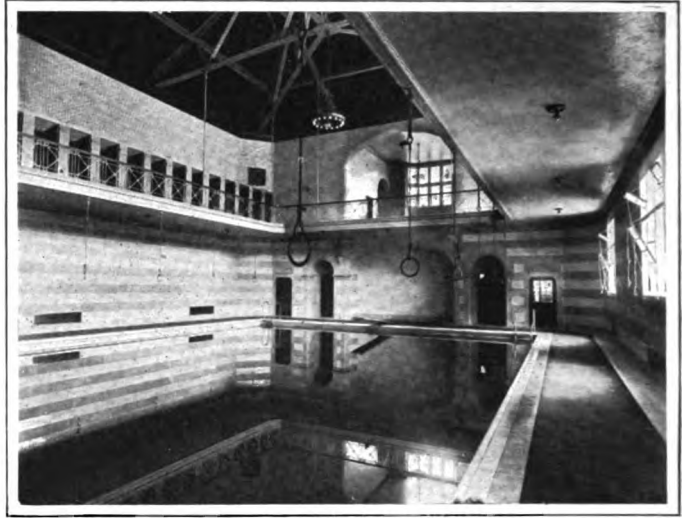
The new building is a memorial erected by H. J. Heinz in honor of his wife, and the institution is supported and conducted



THE SARAH HEINZ HOUSE, PITTSBURGH

entirely by members of the Heinz family. The building is equipped with many luxurious fittings and accessories. There is a large swimming pool, a billiard room, an intermediate game room, a junior game room and a well-equipped gymnasium of ample size. Sewing classes are held for the girls, and they are also instructed in domestic science, bead work and applied art.

The present enrollment of the House is a little over 400 and is equally divided between boys and girls. To be eligible for membership a girl or boy must be between the ages of seven and twenty-five. Much of the work of the House is done by boys and girls who have graduated, as it were, and now help in doing what they can for the younger ones. The great work this institution is doing can hardly be estimated. It is keeping off the streets this great number of young people and is directing their minds and energies in the right way, so that they may become, in

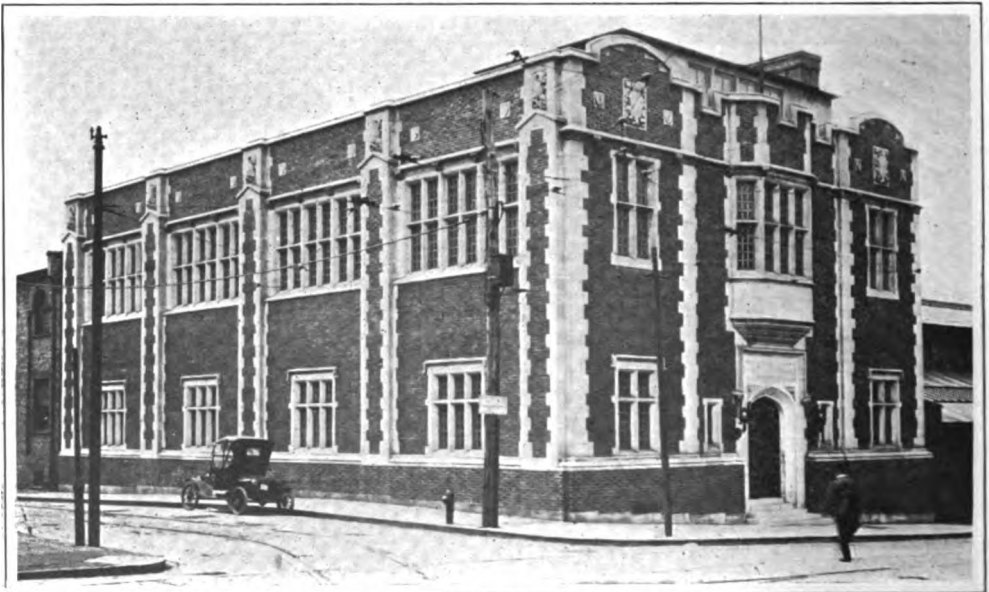


Photograph by courtesy of Pittsburgh Bureau of Recreation
SWIMMING POOL IN THE OLIVER BATH-HOUSE

maturity, clean, intelligent and useful citizens of the community and of the country.

The purpose of the Sarah Heinz House is stated as follows:

1. To provide wholesome social and recreational opportunities.
2. To utilize leisure time and energy.
3. To study individual requirements and awaken and direct latent ability.
4. To develop Christian character and train



Photograph by courtesy of Pittsburgh Industrial Development Commission

OLIVER BATH-HOUSE, PITTSBURGH, PA.

for efficient citizenship the young people of the community.

5. To draw together neighborhood residents and friends for mutual helpfulness.

6. To train for service in the community.

In these six items are embodied the principles of real social uplift—practical, everyday, useful work.

+ +

The Oliver Bath House

The new South Side public bath-house was presented to the city of Pittsburgh on Thursday, June 17. This bath-house was erected according to the provisions of the will of the late Henry W. Oliver, for the free use of the people of Pittsburgh. The presentation was formally made by Mrs. Henry R. Rea, daughter of Mr. Oliver, to

Mayor Armstrong. The exercises were attended by a number of people prominent in civic and educational fields of work, and were held under the auspices of the South Pittsburgh Board of Trade.

The new bath-house is the most elaborate and best equipped structure of its kind in the city. It contains a pool 40 by 80 feet, with swimming rings, spring-board and other apparatus. The balconies which encircle the room are equipped with lockers. Huge skylights and electric lamps furnish the pool with light. The building is constructed of stone, concrete, tile, steel and brick, and is equipped with modern heating, ventilating and drainage systems and appliances.

Massachusetts Colleges Helpful in Public Work

A recent study to ascertain the degree in which Massachusetts colleges contributed service in public and semi-public work in 1914 revealed that 125 professors of these colleges served the state of Massachusetts in such positions in nearly 200 capacities. The investigation was conducted by a committee of the University Council of Massachusetts and was composed of President Richard C. Maclaurin of the Massachusetts Institute of Technology, chairman, Presidents Harry A. Garfield of Williams and Ira N. Hollis of Worcester Polytechnic.

While it is natural that the greater part of this administrative and advisory work should be taken up by the larger colleges, much is done by the smaller institutions, and the women's colleges furnish members for those boards whose work particularly concerns women. No less than 20 members of the faculties of Massachusetts colleges served upon state commissions or boards. There is also a group of men who are not themselves members of commissions, but who are called upon to assist the latter by giving expert advice. Such work in 1914 required the services of 21 men and women, and included the testing of materials or machines; collaborating in the preparation of a food material exhibit for one of the commissions; giving medical advice and statistical information; advising the Civil Service Commission, the Massachusetts Highway Commission, the Metropolitan Water and Sewage Commission, and the

State Board of Agriculture, and acting as consultant in gypsy moth work.

In furnishing expert advice to municipalities during 1914, 43 college teachers were utilized. The list of towns served includes Boston, Cambridge, Somerville, Lynn, Salem, Rockport, Wakefield, Framingham, Wellesley, Quincy, Brockton, Cohasset, Bridgewater, Taunton, Fall River, New Bedford, Bourne, Concord, Marlboro, Billerica, Milford, Middleboro, Worcester, Amherst, Gardner, Adams, Springfield, North Adams, Williamstown, Waltham and Pittsfield.

Public-spirited societies composed of private citizens drew upon the colleges for a large portion of their management—an important service that the college professor performs, in most instances, gratuitously, as a contribution to the public welfare. Some 70 of the instructing staffs of the colleges were utilized in 1914 for such work as serving on a school board or other local body, a committee of some industrial group seeking for light on a public problem, a charitable organization, a town planning board or a society for getting at the proper apportionment of taxes.

The institutions from which the professors rendering services in the various capacities have come include Harvard, Massachusetts Institute of Technology, Worcester Polytechnic Institute, Williams, Massachusetts Agricultural College, Tufts, Wellesley, Mount Holyoke, Smith and Lowell Textile.

FACTORS IN THE SUCCESS OR FAILURE OF STREET PAVEMENTS

EDITOR'S NOTE.—*The following is the first of the series of articles under the above heading to run monthly in THE AMERICAN CITY, as announced in the July number. The next six articles in the series will be:*

ASPHALT BLOCKS—E. J. Morrison, President, The Hastings Pavement Company.

BITUMINOUS MACADAM—Philip P. Sharples, Manager, Tarvia Department, Barrett Manufacturing Company.

BRICK—Will P. Blair, Secretary, National Paving Brick Manufacturers Association.

CONCRETE—W. A. McIntyre, Chief Road Engineer, American Portland Cement Manufacturers Association.

GRANITE—Zenas W. Carter, Field Secretary, Granite Paving Block Manufacturers Association of the United States.

WOOD BLOCKS—H. S. Loud, Chief Engineer, United States Wood Preserving Company.

The articles will be published in alphabetical order, as listed above. As the manufacturers of the various types of pavement are vitally interested in the proper construction and maintenance of their products, and have necessarily made a very careful study of this subject, they are able to offer thoroughly practical advice regarding factors to be considered and mistakes to be avoided. It is not the intention of this series of articles to advocate the merits of any particular kind or brand of pavement. The assumption will be in each case that a city has decided to lay a pavement of the type under discussion; the object of each article being to offer suggestions as to how the longest life may be obtained for such a pavement at the least possible expenditure to the municipality.

Sheet Asphalt Pavements

By Daniel T. Pierce

Executive Assistant, The Barber Asphalt Paving Company, Philadelphia

ASPHALT pavements have been laid to an ever-increasing extent for the last thirty-five years. For twenty years of this period sheet asphalt construction has been standardized—that is to say, it has followed, or should have followed, well-settled rules and theories, and since the appearance of Clifford Richardson's "The Modern Asphalt Pavement" in 1905, there has been no good excuse for poor asphaltic construction.

Despite these facts, faulty construction constantly occurs and one cannot make even the most casual observation of paving operations without seeing acts of commission or omission that mean more or less serious faults in the pavements under construction. As the writer apprehends the purpose of

the editor of THE AMERICAN CITY in requesting this article, it is that there should be pointed out some of the neglected factors in the building of successful asphalt surfaces.

Grading of the Mineral Aggregate

From the beginnings of sheet asphalt construction it was appreciated, by those who gave the subject any thoughtful consideration, that the grading of the mineral aggregate was the most important factor of all. The older conceptions on this subject have recently been given new significance by Mr. Richardson's investigations of the colloidal character of the mineral matter of Trinidad asphalt. Heretofore

the grading of the mineral aggregate of a sheet asphalt mixture has been considered only with relation to the amount of bitumen that a sand of a given grading would carry—i. e., the amount of asphalt cement that would adhere to the surface of the mineral particles, fill the voids between them and form a dense mat without the occurrence of excessive bitumen.

A pound of ordinary sand contains 129,000,000 particles, having 44,378 square feet of surface. A pound of finer sand—of which 30 per cent of the particles will pass 80- and 100-mesh screens, and 7 per cent will pass a 200-mesh screen—contains 232,075,000 particles, having 60,503 square feet of surface. A pound of dust or filler such as is used in paving mixtures contains 192,715,475,500 particles, with 527,820 square feet of surface. These figures are given for the purpose of enabling one to realize how enormously the surface area presented by the mineral matter of a paving mixture increases as the sand particles decrease in size. Filler or dust is the finest material ordinarily considered with relation to a paving mixture. The colloidal investigations, however, have taken us a step further, as may be judged from the fact that if a cube with a dimension of 1 cm. is divided only to the coarsest colloidal size (.0001 mm. in diameter) the number of particles produced would have a surface 100,000 times greater than that of the original cube.*

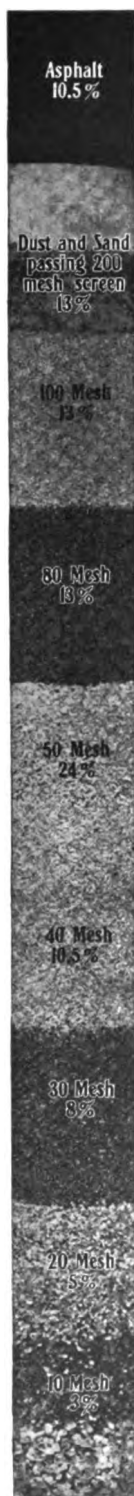
The observed effects of the presence of colloids in solution in the bitumen of Trinidad asphalt are such as to confirm and emphasize

* Those who are interested in pursuing further the result of Mr. Richardson's investigations along this line may be referred to the following articles:

"A Unique Geophysical Phenomenon"—*Journal of Physical Chemistry*, Vol. 19, No. 3.

"Colloids in Their Relation to Bituminous Road Construction, the Asphalt Paving and Other Industries"—*Technology Monthly and Harvard Engineering Journal*, Vol. 11, No. 2.

"The Theory of a Perfect Sheet Asphalt Surface"—*Journal of Engineering and Industrial Chemistry*, June, 1915. Vol. 7, No. 6, page 463.



Composition of sheet asphalt mixture for heavy traffic

the ideas that have hitherto been held as to the importance of fine grading of sands entering an asphalt mixture. The factor most often ignored in this connection is the great importance of the material of a size passing the 100- and the 80-mesh screens. For a heavy traffic street the proportion of 80- and 100-mesh material in the sand should be at least 34 per cent, and for light traffic mixtures not less than 26 per cent. This is not only of importance in connection with the stability of the mixture, but it will be found impossible, if this portion of the grading is deficient, to add an adequate amount of dust or filler; for in the absence of sufficient 80- and 100-mesh particles the filler will "ball." Observing this, the unskilled asphalt contractor is likely to diminish the amount of filler instead of increasing the amount of 80- and 100-mesh particles, with the result that an unsatisfactory pavement will be laid.

One of the first steps in the building of a sheet asphalt pavement should be to have the available supplies of sand carefully examined and to reject sand that does not come up to requirements. The character and shape of the sand grains is important. With respect to the adhesion of the bitumen, there is as much difference between sands as there is between a ground-glass surface and polished glass. A hard, clean quartz sand, moderately sharp, is the most desirable for asphalt mixtures.

Pavement failures often arise from the fact that anything is regarded as filler which will pass a 200-mesh sieve. Such material may, however, not be a filler in any proper sense. It is the amount of material which is so impalpably fine as not only to pass a 200-mesh sieve, but also to remain suspended in water for at least fifteen seconds, which is of value as filler; 65 per cent of the 200-mesh material in a paving mixture should be fine enough to satisfy this test. Ground limestone is ordinarily used for this

purpose, but it is not so satisfactory as finely ground Portland cement; and the slight additional cost of a mixture in which Portland cement is used as filler is amply justified by the better results obtained. As to the amount of filler in proportion to the aggregate as a whole, it should be such that the finished surface mixture will contain at least 10 per cent of 200-mesh particles. Neglect of any of the factors just mentioned as pertaining to the grading of the mineral aggregate which forms 90 per cent of a paving mixture, will affect, to a greater or less extent, the success of the finished pavement.

The Binder Course

Neglect of the importance of the binder course sometimes goes so far as to lead to its omission altogether. It is that part of the pavement which forms a cushion between the wearing surface and the foundation. Practically every one whose opinion is of value is agreed that "close" binder is much to be preferred to the "open" binder still used to a considerable extent. Open binder is merely coated stone of from $\frac{1}{2}$ inch to 1 inch in size. Close binder is practically an asphaltic concrete mixture of stone, sand and asphalt cement. A better binder course than the open form can be made by the use of old surface material softened by steam and mixed with stone. Additional asphalt cement must be added to coat the stone and enrich the old surface mixture. Binder prepared in this way, although costing less than close binder, is superior to ordinary open binder for the intermediate course of an asphalt pavement.

The fault most frequently noted in connection with the laying of the binder course is that it is placed too far in advance of the surface mixture, while to get the best results the wearing surface should be placed on the binder course before the latter has a chance to cool and gather dirt. Despite this well-known fact, we not infrequently see a block or more of binder course laid one day and the laying of the wearing surface delayed until the next day. Not only does the binder course cool off under these circumstances, but it is likely to become more or less dirty, and this weakens the bond between it and the wearing surface.

It may not be out of place to mention

here a fact that is of considerable importance in the preparation of close binder, as well as in the making of asphaltic concrete wearing surfaces. This is the inadvisability of heating sand and stone in the same drum, for the reason that the stone becomes too hot by the time the sand is heated to a sufficient temperature. It is highly desirable to heat the stone and sand separately.

The raking of the wearing surface and of the binder course is also a factor of importance in the success of pavements of this type. Only by the greatest care and skill can a perfectly even distribution of the material be obtained. Entirely too much is left to the roller man. The broad wheels of the roller do not search out the weak spots or those that are not as dense as the surrounding material; but these will soon appear under traffic if the raking has not resulted in an even distribution of the material and the elimination of all lumps. A loaded wagon tire, it must be remembered, exerts a great deal more pressure to the inch than rollers exert. Loaded traffic will find the weak spots that the roller glosses over.

Smoothers should be used only at joints or where one day's work joins the preceding day's. Too free use of the smoothing iron means that an attempt is being made to obscure defects. Slightly porous spots will close up under traffic, while the use of smoothing irons to correct such defects may seriously damage the wearing surface.

The rolling of an asphalt pavement is something of an art. Skilled roller men are perhaps harder to obtain than any other class employed by asphalt pavers. Where work is being done by contractors who are properly equipped for it, it will be observed that the rolling is probably begun with a $2\frac{1}{2}$ -ton roller, followed by a 5-ton and completed with an 8-ton roller; the lighter one being also used in cross rolling the street. If this represents perfection in rolling—the object of which is, of course, thoroughly and uniformly to compact the wearing surface—it is evident that the same results cannot be obtained by the use of an 8-ton roller for the initial and only rolling of the pavement. While it would be unfair in some cases to require that the contractors should provide themselves with rollers of different weights, this cannot be ignored in any account of the factors that



LAYING SHEET ASPHALT, APPROACH TO THE CAPITOL
 Note cross-rolling with light-weight roller



**LAYING CONCRETE FOUNDATION WITH BOOM-DELIVERY MIXER FOR BERMUDEZ
 ASPHALT PAVEMENT IN FRONT OF CAPITOL, WASHINGTON, D. C.**

contribute to the construction of perfect asphalt surfaces.

The Foundation

It should go without saying that concrete foundations for asphalt pavements should be of sufficient thickness and that this thickness should be adapted to the traffic that the street is expected to carry. In purely residence districts 4 inches may be sufficient,

different from that of any traffic that pavements have heretofore carried. Trucks with rounded rubber tires have the effect of pushing pavements out at right angles to the movement of the truck; while heretofore we have had only to contend with the compressive action of loaded vehicle tires and the back-thrust of rapidly moving pleasure cars.

The effect of motor-truck traffic empha-



CONCRETE FOUNDATION FOR ASPHALTIC CONCRETE WEARING SURFACE

Note roughness of surface

but 5 inches would be better, while there are streets of such heavy traffic that 8 inches would not be excessive; and in London one very heavy traffic street has recently been provided with a 12-inch concrete foundation. All ideas as to the thicknesses of concrete foundations have, of course, had to be revised in the light of the enormously increased weights that pavements are now called upon to carry in the form of heavily loaded motor-trucks. The action of traffic of this description is also

sizes the need for lateral support of all types of asphaltic pavements, in the form of headers or curbs, and also makes it necessary to consider the advisability of revising standard proportioning of the thickness of binder course and wearing surface. Where very heavy motor-trucking is to be expected, better results will be obtained by increasing the thickness of the binder course and decreasing the wearing surface; that is to say, where ordinarily there would be laid $1\frac{1}{2}$ inches of binder

and a 2-inch top, it will probably be found desirable on streets carrying motor-truck traffic to increase the binder course to $2\frac{1}{2}$ inches and decrease the top to $1\frac{1}{2}$ inches. Some authorities are of the opinion that even better results would be obtained under such circumstances by laying a $2\frac{1}{2}$ -inch binder course and only an inch top, the object being to overcome the thrust of the motor-truck tires.

An important factor in connection with the foundation is the degree of smoothness or roughness with which it is finished. From time to time advocates arise for smooth-finished foundations, while, on the other hand, we find those who not only advocate but have patented various schemes for leaving projecting stones above the concrete for the purpose of "anchoring" the top to the foundation. The best advice on this point, in the opinion of the writer, is that which counsels the laying of a moderately rough concrete surface without projecting stones. In other words, the surface should not be "floated," but should be left in the condition it will naturally take if not too thoroughly tamped. There should be no projecting stones, for the reason that these result in an uneven thickness of the top and make it impossible to compress the entire pavement uniformly under the roller. The schemes which call for projecting stones on the surface of the concrete foundation contemplate the elimination of the binder course and apply more to asphaltic concrete than to sheet asphalt construction.

This suggests a comment upon the irregularity of so-called asphaltic concrete mixtures. A miscellaneous and unclassified group of pavements under this general term have come into considerable popularity in recent years. The mixtures range all the way from sheet asphalt formulas with the addition of 20 per cent of fine stone to combinations of 60 per cent of stone and 40 per cent of sand. Of course, these cannot be of equal merit, and in general it will be found that the more nearly the asphaltic concrete approximates the standard sheet asphalt surface mixture plus the stone, the better it will be.

We can hardly leave out the asphalt in a consideration of asphalt pavements, though here we enter the field of contention. A good many paving failures are the

result of the low-bid curse—that is to say, the requirement that municipalities must accept the lowest bid, whether or not it is the best bid. This works out badly in two ways: it means that the contractor will, in fact he often *must*, use the cheapest materials, and with a very slight margin of profit, or none at all, there is always a strong temptation to "skin" a job. One corrective for this situation THE AMERICAN CITY has already discussed ("Wide-Open or Alternate Specifications?" March, 1915), the way being pointed out by means of which municipalities may retain the option of accepting the low bid for products of different classes. This policy is sharply distinguished from the plan of lumping together in one specification products of widely differing character and price; for when this is done, and the low bid must be accepted, an effective monopoly is given to whatever may be cheapest. Alternate or classified specifications are, therefore, a factor in the success or failure of pavements.

It is assumed that the description of the desirable chemical and physical characteristics of the asphalt to be used is such as to secure a good material. It will, however, aid in securing better pavements if some requirement is added that the asphalt shall not merely show desirable characteristics when it leaves the refinery, but that it shall retain these characteristics after combination with the aggregate.

Inspection

Even with the best specifications it is, of course, necessary that there should be such plant and street inspection and control as will make it sure that the specifications are being observed as to quantity and quality of asphalt and flux, temperatures, proportioning of the mixture, amount of cement in the foundation, and the thickness of the latter, as well as of the binder course and wearing surface. Obviously these are all factors in the success or failure of asphalt pavements.

Inspection in name only will not accomplish anything, nor is it always wise simply to employ an "expert" and assume that all will be well. As an example of the truth of this statement may be instanced the experience of a certain city in New York State. It accepted a pavement on one of its ave-



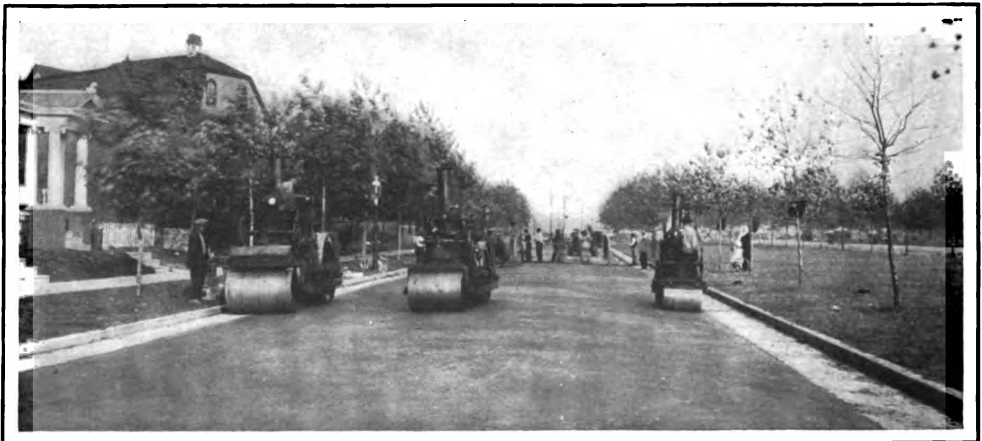
LAYING SHEET ASPHALT ON FIFTH AVENUE, NEW YORK

Motor trucks insure delivery of the mixture at proper temperature. Thorough raking is an essential to the best results

nues on the advice of one of a firm of experts who told the city council that "your pavement has been laid in accordance with the requirements of the specifications and will give you excellent service." Just one year later (June 12, 1914) another member of the same firm had to write a letter saying that from 40 per cent of the pavement on some blocks to 100 per cent of the area of other blocks would have to be resurfaced. Evidently in this case the prime factor of failure was the choice of the experts who supervised the work.

The foregoing, of course, is not a com-

plete guide as to things that should be done or avoided in the building of a sheet asphalt pavement. It represents merely an attempt to point out some of the factors that count in success or failure. There is no mystery about building a sheet asphalt pavement. There are easily available sources of information on the subject, and the faults that too often occur are due not so much to the difficulties of first-class work, or even ignorance on the subject, as to the impulse to follow the line of least resistance and "get the job finished" in the easiest possible way.



ROLLING NORTHEAST BOULEVARD, PHILADELPHIA

Using 2½-, 5- and 8-ton rollers to secure perfect compaction of the asphalt surface

First Aid to the Injured

Instructions Given to Members of the Uniformed Force of the Fire
Department of the City of New York

Shock

SHOCK is a more or less profound depression of the nervous system. Collapse is another term used in describing this condition. A person sustaining injuries, burns or even sudden fright is liable to suffer from shock. The amount of shock depends not so much upon the nature of the accident as upon the character of the individual.

Symptoms of Shock.—The onset of the symptoms is likely to be unnoticed unless looked for.

There is either apathy (a stupid condition in which the patient manifests no interest in what is taking place about him), partial or complete unconsciousness, feeble breathing, face pale, pinched and anxious; eyelids drooping, eyes dull and pupils dilated; pulse feeble, usually rapid, and often absent at the wrist; the skin is cold, and there may be shivering; sometimes the mind wanders. These symptoms may follow the slightest injury, and again they may be absent or only present in a slight degree after the severest accident. In most cases reaction will take place in a few hours; in others no reaction takes place, and the person dies from heart failure.

Treatment.—If there is severe bleeding it must be stopped, but no more than this should be done until after attending to the shock. Place the patient in a horizontal position, the head slightly lowered; give a dessertspoonful of whiskey or alcoholic liquor in a tablespoonful of hot water every fifteen minutes until five or six doses have been taken. Wring out flannels in hot water and lay them on the chest and abdomen; then cover the patient with a blanket to keep in the heat. Place hot water bottles, hot bricks or anything hot along both the sides of the body and legs, inside the thighs and under the arm pits; in using hot water bottles or hot bricks care must be had not to burn the patient, and to warm and stimulate the patient in every way is the object of treatment.

Suffocation

If a person has been under water, or in a room full of illuminating gas or thick with smoke, in a sewer, old mine, or well, or has been hanged or choked, in every case the result is the same: the air has been prevented from reaching the lungs, consequently he is suffocated. The person may be completely insensible, breathing slightly, or not at all, his face purple and swollen, lips livid; but these signs are not always present, for instance, in cases of exposure to a noxious gas.

Treatment.—If it be hanging, cut the rope. If water, take it out of him; do not let the fact that hours have elapsed be your excuse, as in apparent drowning, as well as in other forms of suffocation, people have recovered after being insensible for long intervals. A person taken out of the water, either drowned or apparently so, may have a purple, swollen face, livid lips, and eyes bloodshot, in which case he has fought against death and has been suffocated by the exclusion of air from the lungs, and possibly has drawn water instead of air into them. If he appears pale and flabby, it is probable he has fainted or there has been some failure of the heart. The treatment must be carried out on the spot, except in extremely cold weather, when it is proper to remove the body to a place of shelter if it be near. The first object is to make the patient breathe. Send immediately for blankets, dry clothes and stimulants; allow the chest and shoulders to be exposed to the wind. Open the clothing about the neck and waist; turn the patient on his face; clasp your hands together beneath the stomach and lift as high as possible, letting the head hang down so that the water can run out. Hold in this position for a few seconds and turn patient on his back; if breathing is absent, apply smelling salts to the nose, holding the container a few inches away from face; tickle the nose with feather or straw; dash cold water on the chest and face; or first cold water, then hot water, being care-

ful not to burn the patient. If the above measures are not successful in a few moments, you must resort to artificial respiration.

Artificial Respiration

To carry out artificial respiration, Sylvester's method is the best. The patient is placed in a recumbent position; shoulders slightly raised by a coat or blanket rolled and placed under the shoulder blades, throwing the head backward; the mouth must be opened, the jaws parted and held apart by the insertion of a cork, with a string attached; the tongue must be pulled forward beyond the lips and held in this position by an assistant armed with a handkerchief or rag of any kind; the throat must be cleaned out by passing a finger into the mouth to detect the presence of any foreign body, such as false teeth, tobacco quid or chewing gum, or any other article that might be found there; remove these at once. This is an important matter and if not attended to your efforts at restoration will not be successful. If you have no assistance to manage the tongue, drive a long pin through the tongue about half an inch from the tip; this pin will rest against the upper and lower lips and prevent the tongue from falling back into the throat, causing suffocation and defeating the purpose for which you are working. Kneel behind the patient's head, grasp him by the forearms, half-way between the elbows and the wrists, draw his arms up and over his head, rather quickly but steadily, until his hands touch the ground or floor behind the head. Hold them there for a couple of seconds. This motion draws up the ribs, thus expanding the chest, and air enters; the arms are held back two seconds to allow the air to enter and fill the lungs. The first movement is now reversed—i. e., carry the arms back to the chest walls until they rest against the sides, the forearms on the top; press the forearms firmly downward and inward against the walls of the chest, for the space of one second; this action depresses the ribs, contracts the chest and forces the air out. Then again repeat the first movement of drawing the arms back, and repeat the movements alternately, regularly and persistently, at the rate of sixteen times per minute, until some effort is made by the patient to breathe. When evidence of returning breathing is seen, the use of ammonia inhalations is now

in order, slapping, dashing cold water until gradually respiration is resumed. Do not be discouraged if you are not immediately rewarded by your efforts to revive the patient; sometimes an hour or an hour and one-half have intervened before favorable symptoms of recovery have been manifested. In every case where the services of a doctor can be obtained, send for him immediately. The movements of the arms should be made with regularity and force. Hot water bottles should be placed along the sides of the body, between the thighs and at the soles of the feet.

Burns

Burns are dangerous, however caused. Influenced by their location, depth and extent, they are divided into three classes or degrees:

First Degree: When the skin is simply reddened.

Second Degree: When the skin is blistered.

Third Degree: When the skin is charred.

If they are of large size they are apt to be fatal.

They are always accompanied by shock. Treat by applying freely on the affected parts carroll oil (which consists of equal parts of linseed oil and lime water); cover the parts thickly with cotton batting or flannel; secure the whole with a light bandage. The air must be kept from the burned parts and they must be kept warm. Burns may be treated with free applications of sweet oil, fresh lard, vaseline, etc.

Scalds

Burns from steam may be treated by dusting the parts thickly with bicarbonate of soda (commonly known as baking soda). Cover the parts in the same manner as burns from heat, with cotton batting or flannel.

Wounds

A wound is a breach of continuity of the tissue, or a division of tissue. Wounds are of various kinds: incised, lacerated, contused, etc., and are dangerous in proportion to their location, extent and depth. For practical reasons this subject will be treated from the standpoint of asepsis—i. e., teaching how to dress a wound so as to lessen the danger of blood poisoning. If a doctor is available, his services should be secured. Wounds should be treated with an antiseptic solution made of a tablet of bichloride of

mercury, dissolved in a quart of water. These tablets are carried in the medical bag accompanying each hook and ladder truck in the Department. Take some gauze, soak it in the solution and wash out the wound, being sure to remove all foreign matter, such as grit, splinters, pieces of cloth—in fact, anything that does not belong in the wound—then place a compress of gauze wet with the solution on the wound, then bandage comfortably to prevent the ingress of germ into the wound.

Hemorrhage or Bleeding

When a wound occurs, it is usually accompanied by bleeding—this may be profuse or small. When the small blood vessels are opened the bleeding is called oozing, because it comes from the capillaries. When the larger blood vessels, such as the arteries and veins, are opened, the hemorrhage is profuse, and requires immediate attention for its control. If the wound is in an artery, the blood flows with a spurt or impulse, and is bright red in color.

If the wound is in a vein, the blood flows smoothly, and is of a dark red or purple color. Frequently both artery and vein are opened, because they, as a rule, accompany each other, running side by side. We then have a mixed hemorrhage, which makes it impossible to determine from its appearance whether an artery or vein has been opened or both. Quickly checking the flow of blood is the object to be attained, and for this reason it is better to compress the blood vessel by placing your finger or thumb in the wound, making as much pressure as you can, placing a compress over the wound and binding it tightly on. If this does not control the bleeding, you must apply a tourniquet at a point between the wound and the heart; they may be made from rubber hose, rope, cord, suspenders, bandages or any cloth that will encircle the injured limb—a handkerchief folded in a triangle in which a small stone or any hard substance is placed, may be wound around the limb, and a loop through which a stick may be passed can be used as a capstan for tightening the compress.

Study the situation of the arteries in order that you may know at what points to compress them, but unless the wound is in the leg or arm, the bleeding must be arrested by placing the fingers or a pad directly over the bleeding point, as when the wound is

in the chest or abdomen it is not possible to reach and compress the arteries which convey the blood to the wound; any hemorrhage may be stopped by direct application of pressure to the bleeding point.

In the upper arm the artery lies on the inner side of the bone and under the biceps muscle; by pressing the thumb deep under this muscle and toward the bone the artery may be compressed.

In the upper part of the thigh the artery lies in front and just below the center of the groin; by deep pressure with the two thumbs at this point the blood supply of the whole leg may be cut off.

The supply of blood to the shoulder, arm pit and whole arm is interrupted by compressing the artery which lies under the collar bone; to do this, stand behind the patient and thrust the fingers far down behind the collar bone.

A bleeding wound should be treated as follows: Lay the patient at full length, the head very slightly raised, raise the part of the body wounded to a higher level than the rest, expose the wound—that is, if there is clothing or anything else in the way, remove it—then cleanse the wound and bandage it as described before. Venous bleeding in a limb is controlled by raising the limb.

In cases where there is bleeding from places to which it is difficult to apply pressure or a bandage properly, a piece of ice may be held on the compress, allowing the very cold water to reach the wound. Ice or cold in any form will arrest moderate bleeding; use very cold water if a bleeding wound is to be washed, or else use water as hot as can be borne—either contracts the blood vessel. *Warm* water or *warmth* in any form increases bleeding.

Fractures

A fracture is a broken bone. In *simple* fractures the bone is broken, but skin is not injured to such an extent as to expose the bone.

A *compound* fracture is so called because the skin and the intervening parts are also divided down to point of fracture. In compound fractures the ends of the broken bone may be driven through the skin. A compound fracture is more serious and dangerous than a simple fracture.

Treatment.—The treatment by any but a surgeon must depend on the surrounding circumstances; rid yourself of the idea that

something must be done immediately. There is not the least hurry about setting a fracture. If the patient can remain at or near the scene of accident until the surgeon arrives, place him in a comfortable position and uncover the injured part, cut everything such as clothing away with scissors or sharp knife, place injured part on a pillow or other soft material; lay a wet cloth on the fracture and sprinkle it frequently with cold water. Do not by unnecessary handling add to the suffering of the injured one and perhaps retard his recovery.

If a patient must be moved for any reason before the arrival of the surgeon, you may draw the bone into as nearly its natural position as possible by placing one hand above and the other below the seat of fracture and pulling steadily without using unnecessary violence; take two pieces of board as long as or longer than the bone that is injured, and, if possible, as wide as the limb is thick, place on them a pad made of cotton batting or any soft substance, apply them on the limb and secure firmly by tying them with strips of cloth or handkerchiefs, placing them above and below the seat of the fracture; anything with a flat surface may be used for splints. In an emergency for a fracture of the leg below the knee, a soft pillow may be placed under the leg, turning up the sides of the pillow and securing it firmly about the leg with strings of cloth, handkerchiefs, etc.

Transportation of Wounded

When it is necessary to remove an injured person from one place to another it should be done in such a manner as to cause him as little danger and suffering as

possible. By rough handling and transportation the sharp ends of a broken bone may be thrust through the flesh or may cut into an artery, or the wound may bleed afresh. After the wound has been attended to, the patient should, if possible, be placed on a stretcher. Stretchers may be improvised from doors, shutters or boards; and, what is more convenient for use in the Department, horse blankets, carried on the apparatus, stretched over the handles of the short hooks and secured by safety pins, make a good means of transporting the injured. When ready to place the patient on a stretcher, one bearer kneels on each side of the patient and joins hands underneath his hips and shoulders with the bearer on the opposite side; a third man attends to the wounded limb and looks after the bandage or splints that may have been applied. The bearers then rise to their feet, raising the patient in a horizontal position, and by a series of side steps bring the patient over the stretcher (which should always be placed at the head of the patient on a line with his body), he should be lowered quietly onto it and made as comfortable as possible. The taller of the two bearers places himself between the handles at the head of the patient and the other at the foot. The bearer at the head starts with his left foot, the other with his right. Should they keep step, the stretcher would roll badly. The patient is carried feet first, excepting when going up a hill or upstairs, when he is carried head first. Other means for transporting the injured when a stretcher cannot be procured or improvised have been taught in the Department schools of instruction, and are familiar to all members of the uniformed force.

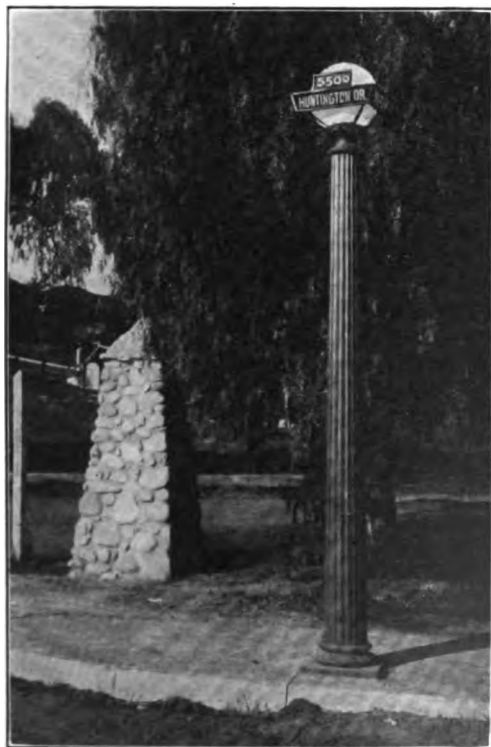
EDITOR'S NOTE.—*This material on the treatment of injured persons is contained in a manual issued by the Fire Department of the City of New York for the instruction of the men of the service. The system of calisthenics, which has been made a compulsory daily requirement of the Department and which is set forth in the same manual, was reproduced in the July issue of THE AMERICAN CITY under the heading, "Keeping the Fireman Fit." See also the front cover illustrations of the City Edition of this number.*

PICTURES AND PARAGRAPHS

Items and Illustrations of Interesting and Ingenious Ideas

Block Numbers on Street Lights

There are indeed new things under the sun, and one of the latest is the block number on street lights. Block numbers are now shown on the Huntington Drive, between Los Angeles and Pasadena, Cal. In that section the illuminated street sign is used in several places, but this is the first instance where the block number has been used in connection with it. The letters and numbers are white upon a background of blue glass, the glass strips being supported by a framework of metal. During the daytime the signs are plainly visible, and at night

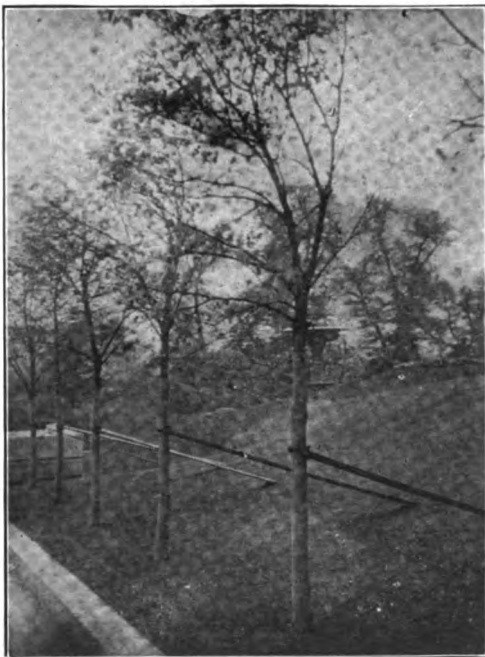


ILLUMINATED STREET SIGN SHOWING
BLOCK NUMBER

they are illuminated by the light from the large frosted glass globe located immediately behind them. Both the street sign and the block number are practical and are extremely helpful to passersby.

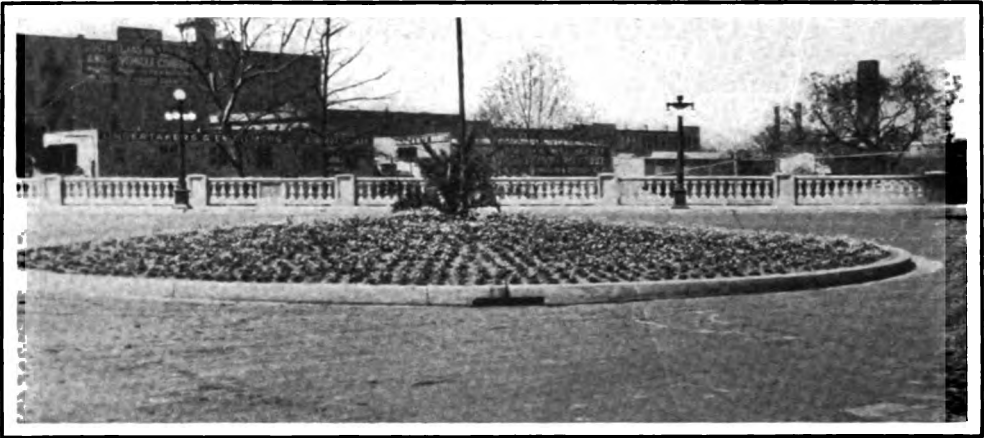
Giving the Trees the Right Start

An excellent method of securing newly-set shade trees so that they will make a proper start and keep their vertical position until thoroughly rooted, is exemplified in the accompanying picture. The trees here shown form one of several lines of shade trees bordering the walks leading



MODE OF SECURING NEWLY SET SHADE
TREES

to the new wing of the Massachusetts State House, in Boston. All are well grown, and are secured to one another by a wire about 6 feet above the ground, fastened through a one-foot section of old hose pipe. Each tree is braced from the back by means of a 6-inch board. The end encircles the tree bole, being cut rounding, with a one-foot section of split rubber hose for protection to the bark; wire is passed through and secured to the board, and encircles the tree in the hose. Several layers of burlap are sewed about the trunk to a height of 5 feet from the ground. These protecting and straightening devices are kept in place several weeks.



FIFTY-FOOT BED OF ENGLISH DAISIES ON THE FRANKLIN-LOUISIANA STREET BRIDGE, HOUSTON, TEXAS

A Bridge in Bloom

Over the stream in Houston, Texas, called Buffalo Bayou, in the center of a bridge which covers the intersection of three streets, is found the charming bed of English daisies seen in the accompanying illustration. The bed is 50 feet in diameter. In the center is a large Phoenix Canariensis palm, and surrounding this are 400 daisy plants bright with many-colored flowers. There is another bed of similar character on Capital Avenue Bridge, and many street intersections in Houston have been beautified with these refreshing plots of flowers. When the blooming season of the daisies ends, the bed is planted to petunias.

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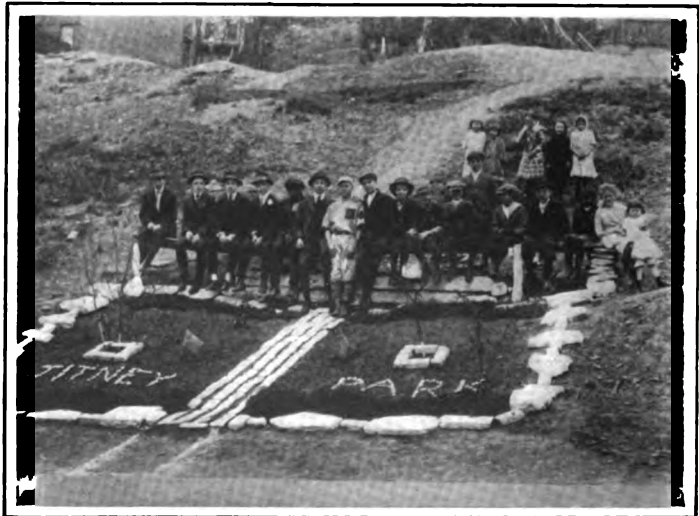
The "Kids'" Own Park

The city of Pittsburgh has added another to its string of parks. None of the city officials was present at the dedication of this latest breathing spot, but they would have been had they known about it.

Jitney Park is the new one. The landscaping and other details of construction were managed by the small boys and girls whose homes are in the congested Soho district. The engineering work was under the

direction of "Boots" Shannon, Ebenezer Garrison, "Red" Kovensky and Mickey Donovan. Ebenezer represents the negro race. Jitney Park is a park of all nations. It lies in the very heart of Pittsburgh's worst tenement district. The ground is a hillside near the bank of the Monongahela River. At one place there is a flat on which baseball games are played. The older boys conceived the idea of a park—"to make it nice for the kids," they explained. The accompanying photograph shows how they started.

The boys have cleaned up the whole hillside—several acres of waste ground—and they did it without encouragement from their elders or from the city authorities.



Courtesy of Pittsburgh Industrial Development Commission

THE "KIDS'" OWN PARK IN PITTSBURGH

When some one discovered the park and reported it at City Hall, Mayor Armstrong made personal investigation. The Playgrounds Association, too, displayed a lively interest. A number of park swings have been given to these young citizens of foreign parentage. Supt. W. F. Ashe, of the Bureau of Recreation, has volunteered to give his aid and advice, and gives assurance that although he is in favor of these youngsters managing their own park, the city will gladly furnish such equipment as is needed to make it a real playground.

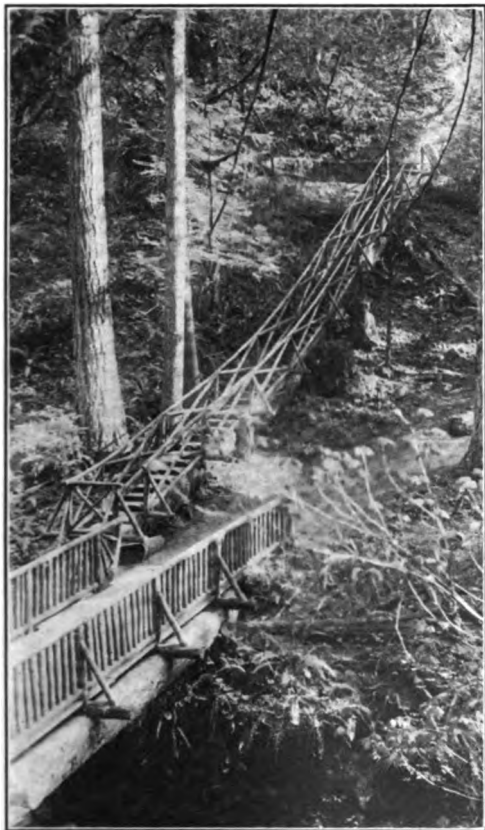


STUMP OF TREE USED AS A BAND-STAND IN A PARK IN TACOMA, WASH.

Novel Uses of Trees in Western Parks

During a severe storm in Portland, Ore., one of the magnificent fir trees which beautify Macleay Park fell headlong down a slope, and lay, a hundred-foot giant, apparently quite "done for." It proved, however, that the fine tree was yet to serve its greatest usefulness. From top to bottom of its immense length a stairway four feet wide at the broadest point was cut, and this was edged on both sides with a rustic railing. The tree is now the delight of visitors to the park, especially children. It takes the place of a steep and slippery path which had long been considered dangerous.

Another example of a converted tree is the cedar stump used as a band stand in Wright Park, at Tacoma, Wash. This is twenty feet in diameter, twelve feet high, and easily capable of holding twenty-five musicians. It originally came from western Washington, where the first proprietor used the inside as a residence, having hollowed it out for that purpose and put in a full-size front door, which is visible in the photograph. It was exhibited at the Alaska-Pacific Exposition held in Seattle, after which it was purchased and donated to the Metropolitan Park District of Tacoma by W. W. Seymour, a former president of the park district and an ex-mayor of Tacoma. The stump was installed in Wright Park as a band stand by the park district commissioners.



STAIRWAY CUT IN A FALLEN FIR TREE IN A PARK IN PORTLAND, ORE.

How to Avoid Root Growth in House Drains

By William Robert Marshall

WHILE the majority of municipalities prohibit vitrified stoneware sewer pipe in cellar bottoms and compel the use of cast iron pipe inside the foundation walls, and to a distance of from 6 to 10 feet outside of the foundation walls, few have been able to pass and enforce an ordinance prohibiting the use of vitrified stoneware sewer pipe for house drains from the house to the main sewer. Pasadena, Cal., however, recently passed an ordinance prohibiting the use of any other than cast iron pipe for the entire house drain, and prohibiting also any replacement of stoneware pipe where it has been necessary to repair a clogged or leaky drain. This ordinance is being rigidly enforced.

The accompanying photographs show the need for the law in this respect more clearly than any argument that could be advanced. Fig. 1 shows the root growth in a ditch where a clogged stoneware house drain had to be actually broken out to remove the obstruction, and shows the drain relaid with cast iron pipe with caulked joints. The fallacy of relaying stoneware pipe in this ditch is obvious, as the roots would soon force an entrance through the cement joints, or raise the pipe and break the joints in their quest for moisture, and soon render the drain useless. I investigated one case where the plumber who was replacing a clogged stoneware drain with cast iron told me that he had laid a new drain of



FIGURE 1

stoneware pipe on the same job less than a year before.

Fig. 2 shows a stoneware drain removed, where the roots had sheared the pipe at the joint and had entered and grown both ways until the drain was completely clogged.

Fig. 3 shows an instance where the root obstruction extended through the parkway into the street to the main sewer. The difference in first cost between cast iron pipe and stoneware pipe would go a short way toward paying for this destruction of lawns, street pavement, labor and material to put the drain in use.

Fig. 4 shows two sec-



FIGURE 2

tions of a removed stoneware drain that was solid with root growth, and the dark mass to the right of them is a section of the root removed.



FIGURE 3

In talking with several plumbing contractors regarding the cost of removing and replacing these clogged drains, I found that the prices ranged from 50 cents per foot to 85 cents per foot, including the replacement with cast iron pipe. Taking twenty jobs of removing clogged stoneware drains and replacing them with cast iron, I found that they averaged approximately \$52. Figure the actual difference in cost of the two kinds of pipe, and see what the difference would have been in the first place. In most cases it is impossible to estimate beforehand the cost of remedying such trouble, as it is impossible to tell, until the drain is dug up, how far the root growth extends. In many cases the roots enter the drain in the yard and extend to the main sewer in the street, necessitating taking up the pavement and, in some cases where the sewer is on the opposite side of the street on car-line streets, of tunneling under the tracks.

The advantages of cast iron for house drains over vitrified stoneware pipe is so well established and recognized by all sani-

tary engineers that it is unnecessary to dwell at length upon the comparison. A few of the most salient points, however, may be informing to the layman reader.

Cemented joints of vitrified pipe cannot be made tight to withstand a pressure test, settling, expansion and contraction, tamping in and refilling the ditch all disturb the joint. It is impossible to make a tight joint unless they are bedded in concrete, and, when the joint offers too much resistance, the roots may shear the joint at the bell.

Roots crossing drains will raise or depress the pipe and start the joints, making an opening through which the roots

in quest of moisture readily enter and grow prodigiously.

Cast iron pipe with joints caulked with oakum and molten lead can be made tight and will withstand a pressure test. A line of cast iron drain will offer more resistance to root pressure and can be thrown out of alignment without breaking the joints. Any argument against cast iron pipe for house drains on account of the increasing use of disinfectants and washing powders, acids



FIGURE 4

and alkalies, etc., is met by the absence of deterioration in the cast iron pipe and fittings taken out of the old Astor House, New York, after eighty years of service.

Clean Water for Thirsty Horses

By C. M. Fassett

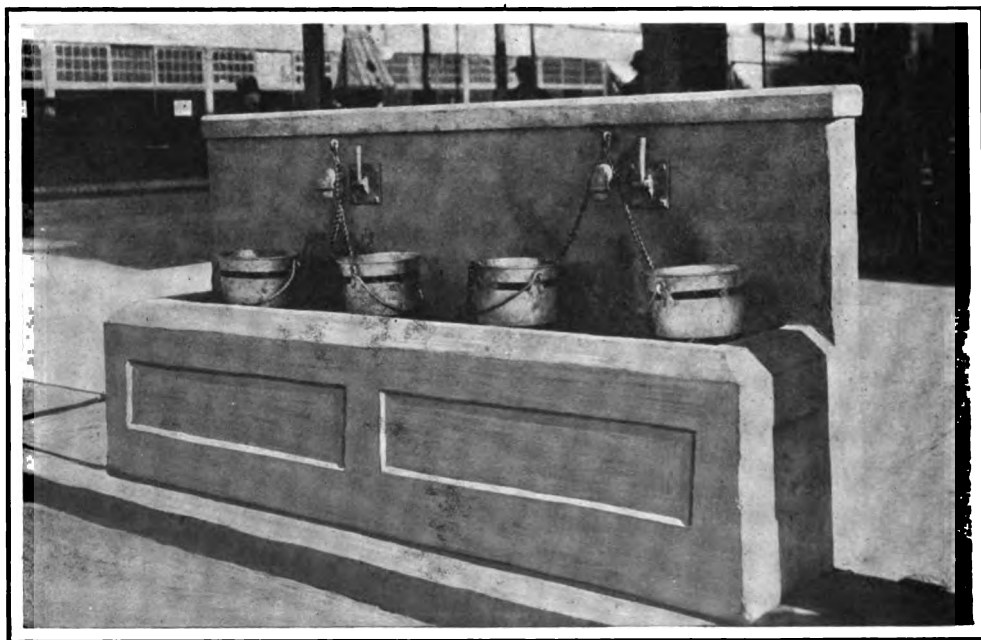
Commissioner of Public Utilities, Spokane, Wash.

TWO years ago the Commissioner of Public Utilities of Spokane, in a conversation with the Washington State Veterinarian, was informed that the public horse-watering trough was responsible for the spreading of disease among the horses, and that some other means of furnishing water for horses was desirable. Correspondence with other cities where improved methods were said to have been adopted failed to elicit the desired information, so the Superintendent of Water proceeded to design a new system, which has resulted in the building of the horse fountain shown in the photograph. It has been in use only a few weeks, but it seems to meet the need.

Water is supplied from the city mains through a $\frac{3}{4}$ -inch tap. The two valves are below the frost line and are counter-

weighted stop and waste valves, operated by chains from the levers shown in the photograph, thus making the fountain available for use in freezing weather, when the old trough had to be shut down. The $\frac{3}{4}$ -inch riser from the valve is enlarged to $1\frac{1}{2}$ inches near the top, and the two elbows and three nipples are $1\frac{1}{2}$ -inch, with a strainer in one of them. This arrangement prevents the water from coming out with too much force, as the pressure on our mains is about 90 pounds. The buckets are extra heavy galvanized iron, fastened to the fountain with heavy steel chains.

The fountain is of reinforced concrete, built in place by our men at a total cost of \$106.87. We shall be glad to furnish to any interested official, upon receipt of 25 cents, a blueprint showing the design and working parts in detail.



HORSE-WATERING FOUNTAIN DESIGNED AND BUILT BY THE WATER-WORKS DIVISION OF THE DEPARTMENT OF PUBLIC UTILITIES, SPOKANE, WASH.

Its advantages are: the saving of water, since no water is drawn except for use; the minimizing of the danger of transmitting contagious disease among the horses; its use in freezing weather, since the valves are set below the front line

Municipal Expenditures and Properties

THE Bureau of the Census has published a voluminous report on "Municipal Revenues, Expenditures and Public Properties." This covers the year 1913 and gives the figures for cities, towns and villages of 2,500 or over. The governmental cost payments for all such municipalities in the United States reach the enormous total of \$1,246,636,677, an average of \$27.29 per capita. These payments are subdivided as follows:

Expenses of General Departments:	Total	Per Capita
All general departments.....	\$666,383,920	\$14.59
General government	68,941,203	1.50
Protection to person and property	140,697,979	3.08
Conservation of health and sanitation	60,422,613	1.32
Highways	87,112,487	1.91
Charities, hospitals and corrections	32,896,351	0.72
Education:		
Schools	223,797,037	4.90
Libraries	9,010,247	0.20
Recreation	21,437,750	0.47
Miscellaneous and general....	22,068,258	0.48

Expenses of Public Service Enterprises	64,194,462	1.41
Interest	132,274,356	2.90
Outlays	388,783,939	8.40

The foregoing figures include, of course, only what are ordinarily termed governmental cost payments, and do not include any moneys expended for public improvements as the result of the issuing of municipal bonds.

The value at the close of fiscal year 1913 of public properties and assets of funds other than sinking funds, of incorporated places having a population of 2,500 and over, is given as follows:

Lands, Buildings and Equipment of General Departments:	
General government	\$218,984,088
Protection to person and property....	183,493,316
Charities, hospitals and corrections....	122,655,981
Schools and libraries.....	1,018,528,315
Recreation	967,488,281
All other	79,522,624
Lands, buildings, equipment of public service enterprises	1,507,133,398
Assets of investment and public trust funds	289,241,921
Total	\$4,887,047,924

The Cruelty of Wretched Pavements

In campaigns for the improvement of the neglected streets, of which too many are to be found in most cities, the following statement of the case from the humane point of view is worth quoting. It has special reference to conditions in a certain large Massachusetts city, and is published in the *Brookline Townsman* of July 3, 1915. The author is Dr. Francis H. Rowley, of Brookline, head of the Society for the Prevention of Cruelty to Animals:

"If horses could talk, those of us who know them best have no doubt as to some of the things they would say. Man's inhumanity to them would be the chief subject of their conversation, at least if they are half as human as we think they are. Not only would owners, breeders, drivers, hear a few things much to their discredit, but cities and towns would be summoned into court and charged with some of the worst forms of cruelty from which these faithful toilers have suffered.

"To require a locomotive to haul a train of cars over a track that wrecks it before half its days of usefulness should be over, and then send it to the scrap heap, is an economic folly. To ask a horse to drag our heavy loads of coal, ice, iron, lumber—the merchandise of all sorts by which cities grow rich and great, over streets that wear it out even before it has

reached its prime, is not only an economic folly, it is a cruelty that not only horses but all decent men must condemn.

"Nothing less than this is ——— guilty of to-day. There are streets in our city where, no small part of the year, the pavements are so slippery that it is torture for a horse to travel on them. There are others so full of holes, so uneven, so wretchedly out of repair, that no self-respecting horse, left to himself, would ever set foot upon them.

"To be jerked and pulled, now this way, now that, because the loaded wagon you are straining to drag to its destination sinks into a hollow here, or bangs into an elevation there; to go home at night with feet bruised and shoes torn off by such pavements, with legs aching in every muscle because no clean, level surface has been provided where the feet could get a grip—if we were horses, who of us would not start a union for self-protection, and strike before the week was over?

"But horses do talk. Their language is not audible, it is visible. You see it in that swollen joint, that sprained tendon, that limping gait, which speak of the roads over which men have made them travel.

"Money? No money to put our streets in order? We are robbing our taxpayers of their money by refusing to do it—saving at the spigot and wasting at the bung-hole. We are doing more."

News and Ideas for Commercial and Civic Organizations

Bonds of \$4,500,000 for Municipal Improvements

KANSAS CITY, Mo.—The Commercial Club of Kansas City took a very active interest in favor of the bond issue of \$4,500,000 for municipal improvements recently approved by the voters.

Heretofore public improvements in Kansas City have to a large extent been paid by special assessments. The park and boulevard system, costing in the neighborhood of \$15,000,000, also street paving, sewers, water-works, etc., have all been paid in that manner and the Club realized the importance of securing a bond issue distributed over a number of years to pay for many needed improvements.

There were nineteen different propositions and the entire issue was approved by a vote of 9 to 1. The Commercial Club held many meetings for the purpose of stimulating an interest in the bond measure. There were addresses by the Mayor and other city officials. Although it seemed certain that the bonds would carry, it was realized that each proposition must have a two-thirds majority of the highest number of votes cast for any one proposition, and the Club felt it imperative to get out a full vote.

In order to do this the young men of the Commercial Club who belong to the Young Men's Division of the Public Affairs Committee were enlisted. They organized so that a captain was assigned to each ward, and each captain appointed two lieutenants for each precinct of his ward. The Commercial Club members were asked to give the use of their automobiles for a greater part of the day. By this means the Club was able to get out a very large vote, and was not only successful in its efforts, but created an interest among the young men and caused them to feel that they were a valuable asset to the organization. As an incentive to the workers, a prize was offered to the captain whose ward would poll the

largest vote. The day after election the victory was celebrated at the luncheon meeting of the Public Affairs Committee, when the prize, a silver loving cup, was presented.

+ +

Commission Manager Charter Prepared by Chamber of Commerce

ST. AUGUSTINE, FLA.—The Chamber of Commerce of St. Augustine has been the means of giving to the people of that city a commission manager charter which it feels will insure the economical and efficient management of municipal affairs. In preparation, the Board of Commissioners of the Chamber corresponded with the principal officials of many cities operating under the commission form of government, carefully studied their charters, and consulted the most noted authorities on the subject of charter-building. An educational press campaign was then carried on for several months, informing the people about the experiences of the various commission-managed cities.

Early in the spring of this year the new charter was published in pamphlet form and mailed to a large percentage of the voters of the city. It was also published in full in the local daily. Petitions were circulated and signed by fully 75 per cent of the voters asking the legislature to pass the charter.

In accordance with the provision contained in the bill that the measure should become law only upon ratification by a vote of the people, such a vote was taken early in June and resulted favorably.

A few of the special features of the St. Augustine charter are contained in the following summary:

It provides for the adoption of a "civic plan" for St. Augustine, thus insuring future improvements and civic development along definite and comprehensive lines, and toward the accomplishment of a general plan devised by expert opinion and previously approved and adopted by the people of the city.

It creates a purchasing department, designed to effect great saving in the purchase of supplies.

It safeguards the city in franchise matters.

It affords a means for avoiding much unnecessary tearing up of streets for service connections.

It corrects the faulty system of taxation previously in use, affording a means for equalizing the tax and for increasing the recorded taxable values while reducing the millage levied.

It provides the means whereby the people of any particular locality within the city may, by their own initiative, obtain needed improvements which will especially benefit their property.

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State Financing Irrigation Bonds

SHERIDAN, WYO.—The Sheridan Commercial Club succeeded this spring in securing the necessary legislation permitting the investment of state funds in bonds of irrigation projects in the state of Wyoming. It is believed that the bill will have a decidedly beneficial effect in encouraging the development of many sections of the state heretofore undesirable for residential purposes, owing to the lack of any water supply.

To secure the passage of the bill, the Commercial Club sent a representative to Cheyenne, who spent nearly six weeks working in its interest at an expense to the Association of only \$200.

✦ ✦

Two Commercial Organizations Financed Through Taxation

AMARILLO, TEX.—The Board of City Development of Amarillo is an organization which functions much the same as a chamber of commerce, but is a branch of the city government, so constituted by authority of Section 24 of the charter, which reads as follows:

"The Commission shall have the authority to appoint what shall be known and designated as a 'Board of City Development,' which shall be composed of not exceeding fifteen members, who shall serve without compensation, and may prescribe the qualifications and duties of such Board and their term of office, and may appropriate not exceeding two mills on the dollar valuation of the taxable property in the city of Amarillo, from the general fund of said city, to support the work of the Board."

The only officers connected with the Board who receive a salary are the secretary and his assistants, who are appointed

by the Board outside of their own number. They hold office at the pleasure of the Board, which fixes their salaries.

An ordinance defines the duties, functions and powers of the Board, and prescribes that the president of the Board shall assign each director to a certain department of the work, and that each director shall select from among the citizens of the city a committee to assist in the work, such selection to be subject to confirmation by the Board.

An annual income of about \$18,000 is derived from the special tax of two mills authorized by the charter. Since its inception in June of 1914, the plan is said to have worked very successfully and to have commanded the sympathetic coöperation of the people. The advocates of the plan claim that too much time and effort are ordinarily devoted by commercial organizations to collecting the necessary funds with which to carry on their work, and that only the more liberal and public-spirited citizens contribute toward its support, while the non-participating citizens frequently derive the greatest benefit. By making the organization an arm of the city government, however, all the property-owners, through taxation, automatically become supporters of the work, and it is felt that their interest in public matters is more easily aroused than would be possible otherwise.

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TUCSON, ARIZ.—The Chamber of Commerce of Tucson has devised a plan whereby each property holder becomes a contributor to the Chamber's publicity fund. There is a law in Arizona permitting county boards of supervisors to appropriate \$2,500 from the general tax fund for the purpose of inducing immigration into the county and \$600 additional for the salary of a Commissioner of Immigration. The Chamber of Commerce, by an arrangement made with the supervisors, secured the use of this fund of \$3,100. The Mayor and City Council were then petitioned to appropriate \$7,500 each year besides for the work of the Chamber. To make this proceeding legal, a city publicity commission was appointed, consisting of three members of the Board of Directors of the Chamber, the City Manager and one member of the City Council. A monthly allowance of \$625 out of the total amount of public funds set aside for

the Chamber's use was granted by the commission, out of which the overhead expenses of the Chamber are met. An accounting of the expenditures is made quarterly to the city auditing committee. In addition to these funds, the membership dues of the organization add about \$2,400, making a total sum of \$13,000 available for the use of the Chamber of Commerce annually.

Under the above arrangement, property owners pay $\frac{1}{2}$ mill on each dollar of their city valuation, and in addition $\frac{1}{8}$ mill on their county valuation. Owners of county real estate only, of course, pay but $\frac{1}{8}$ mill on the dollar.

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The "Round Table"

APPLETON, WIS.—The "round table" discussions which are conducted under the auspices of the Manufacturers' Committee of the Commercial Club and are held at intervals of every three or four weeks are said to have proven popular and beneficial, especially in the matter of furthering "safety first" principles. At each meeting so far held the topic for discussion has been some phase of the "safety first" subject, seeking to reduce industrial accidents.

The first step taken in the organization of the movement was to issue a call to manufacturers represented in the membership of the Commercial Club, asking if "round table" discussions along the lines of direct interest to them would be popular, and if so, whether they would have their mill foremen, department superintendents and members of the "safety first" committees present at the organization meeting. The idea was instantly popular, and at this first meeting about 150 men were present. A permanent secretary of the "round table" was elected, who, with the secretary of the Commercial Club, comprise the arrangements and program committee. Meetings subsequent to the first were all largely attended and much good has come from the discussions. Every man present is urgently invited to take part in them, and in consequence a collection of valuable suggestions is obtained at each meeting.

It is believed by manufacturers in Appleton that the discussion of "safety first" ideas in this "round table" fashion has greatly increased the efficiency of the

workers. The subject is of so vast extent that it was thought it would probably run without any sign of exhaustion for some time, when the program committee will present new subjects of equal interest.

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A Home Products Dinner

SIoux FALLS, S. D.—In order to sustain the interest in home products which had been aroused among Sioux Falls residents last autumn through the holding of a "Made in Sioux Falls" exhibition, the Commercial Club of that city recently held a "Made in Sioux Falls" dinner. Each article served had been made in that city, the menu specifying the brand or maker of the viand in every instance. The dinner was paid for by the manufacturers, and the guests of the evening were the retail merchants who were in a position to handle home produced goods.

Talks were given upon community building and the promotion of home industries. It is believed that the occasion was the means of bringing about a better understanding between the manufacturer and retailer and of creating a desire for coöperation among them.

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Educating Boys in Citizenship

BOSTON, MASS.—For more than a year the "Under Forty" division of the Boston Chamber of Commerce has been devoting attention to the Boy Scout movement, and incidentally is having a large part in converting the raw material of citizenship furnished by the Boy Scouts in Boston into a finished product. The directors voted in March of last year to decorate Scouts who win the honor, to the number of not more than 30 in any one year, with a civic merit badge known as the "Boston Chamber of Commerce efficiency badge." Examinations were accordingly prepared and conducted by the Chamber this spring upon civic and commercial subjects, in which the boys were given an opportunity to qualify for the badges. Seven boys and young men took the examination and five passed.

The boys were examined upon questions relating to Boston's commercial and industrial importance; history and purpose of the Boston Chamber of Commerce; the leading industries of New England; electric roads in Greater Boston; railroads, steamship lines, imports, exports, etc.

Industrial Development Through a Unified Transportation System

JERSEY CITY, N. J.—That the Jersey City Chamber of Commerce is alive to the city's opportunities for industrial expansion is seen in the argument of the Chamber's Port Development Committee favoring the organization of an industrial development railroad in Jersey City.

Briefly, the railroad is designed to accomplish two purposes: first, to provide inter-connecting service between the eight trunk line railroads whose termini are located in that immediate vicinity; second, by grid-ironing the lower section of the city with spurs and side tracks, to develop that section which is flat and has almost no elevation above tidewater to overcome, and which is now of low value and of little use, into a highly valuable manufacturing and warehousing district. In other words, it is the intention to make more useful the already existing railroad facilities by tying them all together and connecting them with the sections available for industrial development. These sections, it is hoped, will then be in great demand and soon be fully occupied by prosperous industrial concerns.

The report contains a map showing the main stems of the proposed railroad and the sidings or spurs running off of them and off of each other.

It is estimated that the improvement of the directly affected district would increase the value of Jersey City taxable property at least \$50,000,000. The committee suggests that the city of Jersey City build and operate the industrial development railroad, or lease to an operator for a financial consideration. A bill, prepared by counsel for the Chamber and the city, and enacted as Chapter 350 of the Laws of 1915, gives the city power to carry the recommendations of the report into effect. The City Commissioners have already set the City Engineer at work to report to them in more detail as to route, cost, plan of financing, etc.

The reader's attention is directed to the report itself for further details of the plan,

also to the same committee's report on the Morris Canal. The latter plays an important part in the plans of the Port Development Committee to make Jersey City such a commercial center as its natural advantages warrant. The plan includes the organization of all available water-frontage, with coördinated railroad trackage and terminal buildings. The Morris Canal has been the subject of almost constant agitation for thirty years, breaking out occasionally into active attempts to abolish the canal by legislation. For the first time in the agitation the Jersey City Chamber of Commerce introduced the element of a constructive development program as the basis of legislation, and brought about the defeat of the latest attempt to pass the abandonment bills.

† †

STREET PAVEMENT REPAIR CARD

(Insert name of street or avenue here)	MARK WITH (X) LOCATION OF STREET PAVING IN NEED OF REPAIR	(Insert name of street or avenue here)
	(Insert name of street or avenue here)	
(Insert name of street or avenue here)	FILL OUT INFORMATION ON OTHER SIDE OF CARD	(Insert name of street or avenue here)

NAME _____ ADDRESS _____

POST-CARD SENT OUT BY ROCHESTER CHAMBER OF COMMERCE

A Post Card Report on Paving

ROCHESTER, N. Y.—Among the many Good Roads activities of chambers of commerce, that of the Chamber of Commerce of Rochester, N. Y., is interesting and noteworthy. The accompanying reproduction shows one side of a post card which has been distributed in copies of the regular bulletin issued by the Chamber. The street diagram is easily filled out to show the location of paving discovered to be in need of repair, and on the other side of the card is space providing for a description of the damage, kind of pavement, whether damage is between tracks or not, probable cause of damage, and further details. The card is printed with the address of the Good Roads Committee, and is designed to be mailed with a one-cent stamp.

Knowing One's Town

EVANSVILLE, IND.—More evidence of far-sightedness where young people are concerned is seen in the recent movement of the Evansville Business Association to acquaint the school children, and through the children, their parents, with facts regarding their home town. This is being done through the distribution to the children in the public schools from the third to the eighth grade, and to the high school students, of a booklet telling many things about Evansville of which the residents should be informed. The booklet sets forth Evansville's natural advantages, its population, the extent of its manufacturing and jobbing interests, and such other details as will enable the reader to converse intelligently about Evansville when occasion demands. Through the natural inclination of young people to discuss such matters in their homes, the parents, too, will acquire information regarding their city of which they were previously ignorant. Also, the introduction of local topics into the geography lesson at school breaks the monotony of those lessons and renders the study more practical.

Monthly Reports by Mail

GREENSBORO, N. C.—The secretary of the Greensboro Chamber of Commerce has adopted the plan of mailing typewritten reports each month to the directors of the organization instead of merely reading them at the directors' meetings. The report includes a brief statement of receipts and disbursements, summarizes the work of the past month and gives the plans for the ensuing month. The directors are in this way enabled to study the report in detail and are kept constantly informed of financial conditions, and it is possible also for the directors who miss meetings to be advised of what transpired at the sessions.



The Year's Work

SEATTLE, WASH.—The Seattle Municipal League published "the story of the year" as a supplement to a recent issue of its bulletin. The results of the year's work, finished and unfinished, are shown in an interesting and comprehensive manner in the diagram herewith reproduced. The report also contains several pages of well-displayed text under appropriate headings, a paragraph being devoted to each principal activity.

Results Accomplished by Municipal League of Seattle, May 1, 1914 to April 30, 1915

Better Government	City Development	Education	Health and Welfare
<ol style="list-style-type: none"> 1. The three commissioners elected in March, 1914, were elected by the League. 2. Reported on charter amendments. 3. Reported on bridge bonds. 4. Introduced bill in legislature for city-county consolidation. 5. Worked for the adoption of 1914 freeholders' charter. 6. Took an active part in state tax conference. 7. Worked with tax commission before legislature for submission of constitutional amendment. 8. Opposed successfully two special changes in building ordinance. 9. Opposed successfully public market in city hall park. 10. Opposed successfully special permit for large frame auditorium. 11. Opposed Senate Bill 364, so-called Intermediate Franchise Bill. 	<ol style="list-style-type: none"> 1. Advocated placing port properties under management of business manager. 2. Opposed new port bill. 3. Fought all proposals for city to buy S. K. & S. Railway. 4. Opposed reduction in city light on residence rates and favored lower rates for commercial purposes. 5. Instrumental in securing passage of ordinance licensing fire and life hazard on the waterfront. 	<ol style="list-style-type: none"> 1. Worked for the \$200,000 state university appropriation. 2. Favored state school survey which passed legislature. 3. Helped defeat new school fund apportionment bill. 	<ol style="list-style-type: none"> 1. Favored new county juvenile detention home. 2. Opposed repeal of Mothers' Punsion Law. 3. Studied the problem of the unemployed. 4. Studied potential immigration problem. 5. Recommended against city sale and distribution of milk. 6. Favored state tuberculosis test bill. 7. Favored new city milk ordinance. 8. Fight for playground supervisor increased.

Unfinished Projects Undertaken During the Year

Better Government	City Development	Education	Health and Welfare
<ol style="list-style-type: none"> 1. The establishment of a Bureau of Municipal Research. 2. Reorganization of the city civil service. 	<ol style="list-style-type: none"> 1. Campaign for trees in parking strips. 2. "Better roads for less money." 3. Vacation of Jefferson Street and its use as a part of City Hall Park. 4. Recommend board of engineers for Cedar River dam. 5. Education campaign for fire prevention. 6. Extension of fire inspection by firemen. 	<ol style="list-style-type: none"> 1. Campaign for better motion pictures. 2. Work to secure a National Bureau of Municipal Affairs in Washington. 	<ol style="list-style-type: none"> 1. More and cheaper comfort stations. 2. A study of the law regulating marriage of double minded. 3. A study of garbage collection and disposal.

Better Assessment Methods in Two Small Municipalities

By Walter W. Pollock

President, Manufacturers' Appraisal Company, Cleveland, Ohio

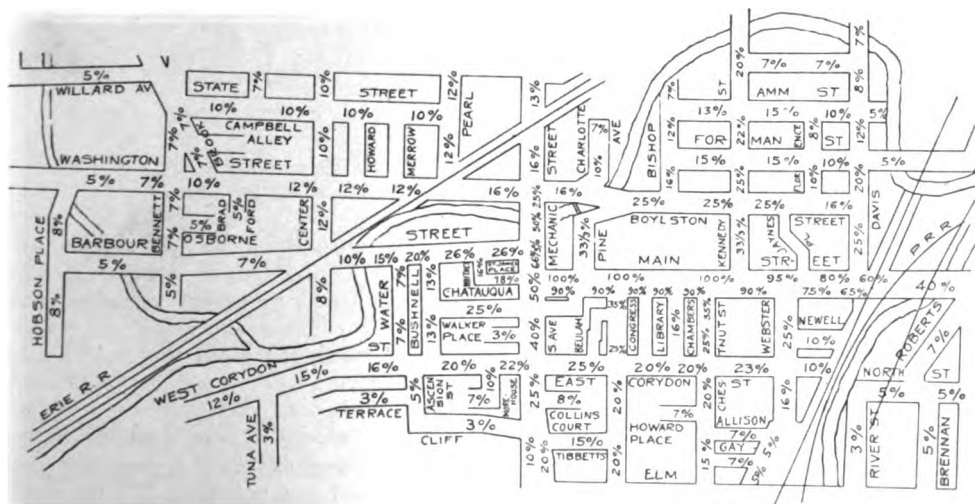
THE Somers Unit System of Realty Valuation has recently been adopted in two Eastern municipalities—Bradford, Pa., and Ridgefield Park, N. J., for revision of real estate tax assessments. Bradford is a city of about 15,000 population in the oil district of northwestern Pennsylvania, and Ridgefield Park is a suburban village of about 6,800 population on the Erie Railroad within twenty minutes' ride of New York City.

Most of the discussions of the subject of tax assessments of real estate and most of the legislation on that subject have in the past centered around questions of administrative organization, rather than upon the definition of exact methods to be used for tax assessment purposes. There has been a great deal of more or less futile discussion of the methods of inducing the assessors to their offices, with something to be said on both sides as to whether assessors should be elected or appointed.

In the state campaign in Ohio last year Governor Cox, who had recently induced the legislature to abolish the local elective tax assessors and establish appointive

county assessors, was opposed by the present Governor, Willis, who made much of the idea that the people should be permitted to elect their own assessors. Neither partisan discussed the question of putting into effective statute the requirement that assessors should use systematic and uniform methods for determining valuation. The constitution requires the "true value in money," but this definition has apparently been insufficient, because of lack of adequate means for ascertaining the "true" value.

The city of Bradford, however, has inaugurated a new plan by adopting a city ordinance under which the assessor is required to make an accurate and complete analysis of land and building values. The Bradford ordinance requires the assessor to exercise judgment of unit-foot values upon the various block frontages, as required by the Somers System, and as adopted by assessors in cities where the Somers System is not used in its entirety. It requires the holding of public meetings and a full discussion of all of the elements of each frontage value by the citizens of Bradford. For lots having but a single street accessibility it re-



MAP OF CENTRAL BUSINESS DISTRICT OF BRADFORD, PA.

Figures in streets represent opinions tentatively expressed of percentages of usefulness of the several block frontages. The 100 per cent frontages on Main Street are the best locations in the city. The unit-foot values on these blocks were determined to be \$300, and the other unit-foot values were in the proportions fixed by the percentages.

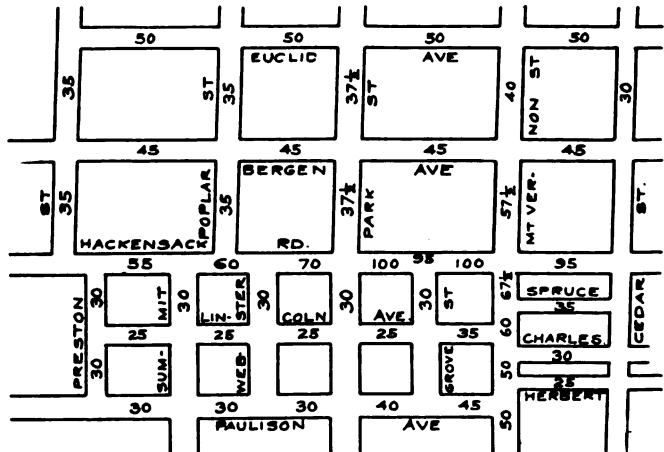
quires the adoption of a uniform depth percentage, showing the values at depths other than that of the unit of quantity—one foot front and 100 feet deep. For lots located at or near street intersections, the ordinance requires the adoption of uniform methods for computing the enhancement due to such location, as compared to lots having a single street accessibility. Uniform methods are also required for showing the enhancement due to alleys, railway trackage, water-frontage, or other enhancing influences. In a similar way uniform methods are required for the appraisal of new reproductive and depreciated values of buildings.

All of the steps which go to make up the value of a given site are required by the Bradford ordinance to be set down upon land value records and building value records. The assessor will thus be able to show definitely to each taxpayer the basis of the assessment of his property, and he will also be in a position to make comparisons between the assessments of his property and the property of other taxpayers.

The Somers System was given a most careful investigation by the Executive Committee of the Board of Trade of Bradford, and Mayor De Gollier and Finance Commissioner Lindsey, as well as the three other members of the City Council, have been working in complete harmony in the installation of the system. The central business district was first tentatively appraised by the expression of opinion of the relative values of the various block frontages. On Main Street the 100 per cent or best frontages were first located, and then opinions were expressed as to comparative values of contiguous locations. After the holding of several public meetings at which property owners were given an opportunity to express their opinions of the frontage percentage values, the assessor finally determined the monetary value, and the 100 per cent frontages were given a unit-foot value of \$300, the contiguous frontages being reduced to the proportionate amounts as des-

ignated by the percentages previously determined. There have been a large number of public meetings at which property owners have participated with interest in the discussion of unit-foot values. The new assessment, it is anticipated, will be a tremendous improvement over the old valuations, which were claimed by Bradford taxpayers to have been made without equity or justice as between the different properties.

Ridgefield Park is a village in which municipal affairs are conducted in large measure in the evenings, most of the residents being New York business men. There were several thousand lots and nearly 1700 buildings. The municipal officials determined the values in percentage form throughout the entire area of the village. As the most valuable block frontage was deemed to have a unit-foot value of \$100, the percentages were also dollar values and required no sub-



BEST DISTRICT OF RIDGEFIELD PARK, N. J.
The street figures are unit-foot values

sequent transposition. There was active discussion of the unit-foot values, which was participated in by the community at numerous evening meetings, and the discussion was continued when the residents of the village were on their way back and forth to New York.

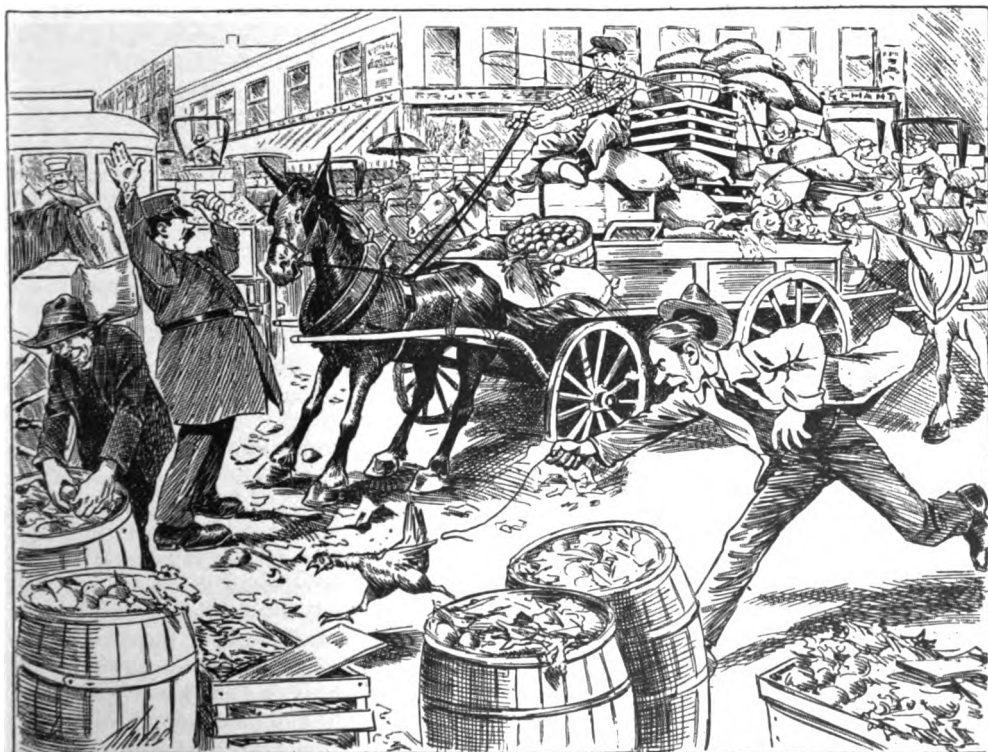
By the Somers System methods it has been possible to obtain the approximate full value of land and buildings. In the State of Pennsylvania the statute does not require separation of land and buildings, and former assessments were made without such separation. In New Jersey, however, the law requires that the land and

improvements thereon shall be separately appraised. It is a well-known fact that assessors working without system usually appraise the land at considerably less than full value, and the buildings at a considerably higher proportion of full value than the land. Such inequities can be readily pointed out and cured by the adoption of uniform methods for assessment appraisal, and the result in Ridgefield Park, as in other cities where the Somers System has been installed, has been to secure a higher value for land and a lower proportionate value for buildings. The ordinary assessor does not, as a rule, apply factors for depreciation upon buildings, notwithstanding the fact the buildings are constantly subject to depreciating influences due to wear and tear and obsolescence, as

well as lack of utility for the sites upon which they are located.

In both Ridgefield Park and Bradford the use of the Somers System has increased the land values and decreased the building values, without the exercise of special discrimination. In other words, a true valuation of land and buildings has brought about that result. It is possible that when the taxing authorities shall finally determine the assessable values of the properties in both of these municipalities, it will be decided to appraise all properties at some percentage of full value, or the assessors may decide to finally appraise the buildings at a lesser percentage of full value than the land. Unless some such action is taken, there will be a material reduction in the tax rate.

Cartooning for Terminal Markets



From the Chicago "Produce Terminal News"

THE HYSTERICAL HUMOR OF CONGESTED TRAFFIC CONDITIONS WHICH MODERN MARKET FACILITIES WOULD REMEDY

Items of Municipal and Civic Progress

Community Use of School Houses in Wisconsin

The remarkable increase in the use of school buildings for community purposes in districts maintaining a high school or state graded school is shown by the tabulation which appears below. The Bureau of Civic and Social Center Development of the Extension Division of the University of Wisconsin sent out a questionnaire to each of the high school and state graded school principals of Wisconsin during four successful years, with the results shown in the table:

	1910-	1912-	1913-	1914-
	11	13	14	15
Number of responses.....	176	441	491	573
School houses used as community centers.....	86	265	384	509
Total number of community meetings.....	1265	2452	7932	9081
Neighborhood assemblies organized.....	5	15	111	200
Principals undertake secretaryship.....	1	8	80	152
School houses as polling places.....	12	50	72	109
Principals as voting clerks.....	0	0	8	17
Seating provision for adults.....	12	74	180	242
Young people organized....	24	60	102	204
School houses equipped with gymnasium.....	0	12	51	180
Library used by community.....	55	271	298	479
Systems employing community secretaries.....	0	1	2	7

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An Up-To-Date Form of Educational Recreation

Park shows on the recreation grounds of Boston are given five evenings a week, weather permitting. These free evening entertainments include stereopticon slides as well as motion pictures of high grade, carefully censored, presenting both educational and health subjects, with current news-of-the-world films and entertaining pictures or cartoons. Music in some form accompanies each evening's show. Pictures showing the city's resources for recreation, civic progress and good living are a special feature of each evening's program.

The undertaking is an experiment entered into by several organizations to combine educational features with rational entertainment and definite aids to good citizenship. City departments concerned sanction the plan and give considerable help.

Seymour H. Stone, of the Boston Association for Relief and Control of Tubercu-

losis, is chairman of the main committee. A sub-committee is charged with arrangements for conducting the entertainments, consisting of D. M. Claghorn, Director of Social Work for the Boston Y. M. C. A., Dr. G. W. Tupper, of the Immigration Department, State Y. M. C. A., and E. B. Mero, Secretary of the Public Recreation League and Social and Civic Secretary for the Boston Y. M. C. Union, 48 Boylston Street. The cooperating agencies are, in addition to those mentioned: Women's Municipal League, Massachusetts Child Labor Committee, Instructive District Nursing Association, Milk and Baby Hygiene Association, Massachusetts Society for Prevention of Cruelty to Animals and the Poster Campaign of the Associated Charities.

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Results of a Help-Your-City Suggestion Campaign

To stimulate public cooperation with civic officials, the Toronto Bureau of Municipal Research issued on May 2, 1914, a bulletin inviting citizens to send complaints and suggestions to a Help-Your-City Suggestion Box opened by the Bureau. Attached to this bulletin were blank post cards to be filled in by the citizens with details of any defects they might notice.

There was an immediate response from all parts of the city. The Bureau investigated all complaints and forwarded to the city departments concerned details of the complaints, together with reports by the Bureau's inspectors. Post cards detached from this bulletin continued to come in until November, and from then onwards citizens forwarded suggestions and complaints on their own stationery. The city officials welcomed the cooperation thus secured and were prompt in replying to complaints and suggestions, and, when possible, taking action. The Bureau was thanked several times for drawing the attention of officials to defects which would have continued without remedy but for the cooperation of the general public secured through the Help-Your-City Suggestion Box.

Most of the communications received

were concerned with subjects of a purely local character, such as broken curbs, faulty sidewalks and damaged pavements. A number of more serious defects were revealed. Among the latter were a dangerous bridge, danger at an ill-protected level crossing, and lack of adequate protection along the waterfront. Some of the complaints were trifling and a few were frivolous. For instance, one anonymous correspondent, anxious to cooperate in any effort to make Toronto a better and brighter city, wrote asking that a certain judge be supplied with a new set of teeth. But most of the complaints were justifiable, and in a majority of cases remedy was secured.

Early this year the Bureau made follow-up inspections, and discovered but few instances of neglect to profit by the information gained in this campaign.

On May 7 of this year a reprint of this bulletin was issued. Up to the end of June 63 suggestion cards had been received, 51 had been closed by securing action or satisfactory explanations why remedies must be delayed, and all 63 complaints had been fully investigated. The results secured varied from repairs to a plank sidewalk to considerable dredging operations to clear a lagoon.

From the beginning this campaign has been carried out in a spirit of cooperation with the heads of departments, and not in a spirit of fault-finding. The underlying principle of the campaign is stated in the bulletin: "The city departments can't see everything. There aren't enough hours in the day. A quarter million pairs of eyes, cooperating with the city departments, should increase greatly the promptness and effectiveness of the various city services." The campaign has been accepted in this spirit by the city officials and by the general public.

* *

Neighborhood Health Chronicles

The Health Department of New York City has recently begun the publication of four-page leaflets in the form of neighborhood health chronicles. A small portion of these is devoted to local news for a particular district, the text of the remaining pages being devoted to general health notes written in popular style, this matter being identical in all the chronicles.

The chronicles are issued monthly and

will embrace the following: Columbus Hill Chronicle, Chelsea Chronicle, Everybody's Chronicle (for the negroes of Harlem), Kip's Bay Chronicle, Gramercy Chronicle, Yorkville Chronicle, Bronx Chronicle, East Side Chronicle, Jefferson Chronicle (for the Harlem Italian district), Brownsville Chronicle.

The various neighborhood associations concerned have promised to distribute the publications from house to house in their respective districts. It is hoped to carry on in this way at low cost a large amount of direct health education among the people of New York City.

* *

A Municipal Renting Agency in an Italian City

Commerce Reports for July 14 contains the following item by Consul John H. Grout, of Milan, Italy:

"The city of Milan has undertaken a municipal renting agency, principally in order to supervise, to a certain extent, hygienic living conditions among those occupying large workingmen's apartments or homes. First-class apartments and homes are also taken for rent by this municipal agency, which does not confine itself solely to the needs of the laboring classes.

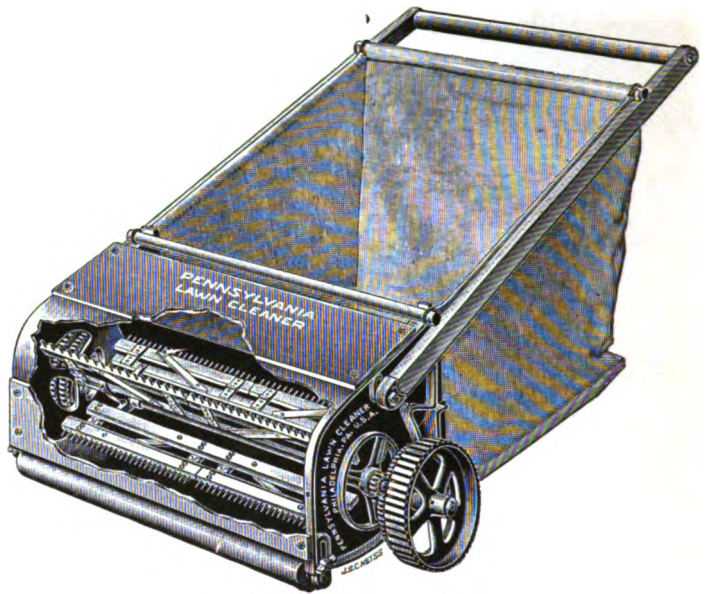
"The idea was first proposed by Dr. Pietro Ferrari at a tuberculosis congress in Milan, and a movement to establish such a renting agency, which had for its chief purpose the investigation of the hygienic conditions and locations of apartments and homes, was launched by the city authorities of Milan, taking as its guides the municipal renting agencies of Paris and Stuttgart.

"Should an owner care to place his property in the hands of the municipal renting agency, the property is first inspected by the proper city officials, and a report is made as to its cleanliness and location. It is then entered upon the bulletin called *The Home*, issued free by the office and illustrated by maps of the city of Milan, showing the exact locations of the various vacant apartments.

"Furnished rooms are not dealt with. No charges for services are made by the office, and the work has been taken up exclusively to benefit those who seek apartments or houses for rent. The bulletin, *The Home*, is re-edited and reissued whenever necessity demands it.

"In Milan there are very few 'real estate agents,' as known in America. All details of renting an apartment are usually taken care of by the 'portinajo,' or porter, who represents the owner of the building and who is installed on the premises. Rents are payable every six months in advance, and notice to leave an apartment is usually given six months in advance."

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The
Leaves
Begin
To
Fall



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36 “ “ “ “ “ “ 126 “

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Municipal and Civic Publications

Copies may be ordered of THE AMERICAN CITY, with the exception of Government publications and those indicated as free, which should be ordered direct from the offices publishing them

MATTHEWS, ERNEST R., Chadwick Professor of Municipal Engineering in the University of London.

Refuse Disposal. A Practical Manual for Municipal Engineers, Members of Local Authorities, etc. 160 pp. Detailed drawings and illustrations. 1915. \$2.00

The different methods of waste collection are treated in the first chapter, unsatisfactory methods of waste disposal in the second, and the conversion of refuse into manure in the third. The following six chapters deal with the destruction of waste by burning, after which a chapter is devoted to the description of destructors suitable for villages, workhouses, hospitals, factories, etc. In chapter XI the author tells us that although the amount of clinker per ton of refuse burnt varies, the average is about 30 per cent. It is possible to make a revenue out of this, for the clinker may be used in the manufacture of bricks, concrete and concrete flags, as a foundation for new roads and footpaths, and for use in bacterial filter beds. Two chapters are given over to a discussion of chimney construction in waste-disposal plants, while the last deals with vacuum cleaning in large buildings. The book, which forms a comprehensive resumé of refuse disposal practice in English and Continental countries, is profusely illustrated with photographs of plants and apparatus besides a number of drawings showing the details of plant construction.

CAPES, WILLIAM P., Secretary, New York State Conference of Mayors and Other City Officials.

Cost and Methods of Collecting and Disposing of Ashes by Cities. (Data gathered in March, 1915, for the City of Auburn. Issued by New York State Conference of Mayors and Other City Officials.) 7 legal size pages; small type. (Supply limited.) Free

LUMSDEN, L. L.,
STILES, C. W., and
FREEMAN, A. W.

Safe Disposal of Human Excreta at Unsewered Homes. (United States Public Health Bulletin No. 68; April, 1915.) 28 pp. Illustrated. Free

HAWES, JOHN B., 2d, M. D., Secretary, Massachusetts Tuberculosis Commission.

Consumption: What It Is and What to Do About It. (Welfare Series.) 107 pp. Illustrated. 1915. 65 cents

This work aims to meet the need for a book on consumption which is not so short that certain important practical details are omitted, nor so long and so replete with historical discussion as to defeat its purpose. To serve the physician, the patient and the patient's family practically, the author, after a short description of the nature and symptoms of the disease, gives an exposition of practical and advanced methods of home and out-of-door treatment. Many other helpful hints are included in the book, such as practical information as to reaching various health resorts, what the children of consumptive parents should know, correct diet, and the problem of paying the bills for medical treatment.

UNITED STATES DEPARTMENT OF AGRICULTURE, Office of Public Roads. (Logan Waller Page, Director.)

Road Models. (Bulletin No. 220.) June 7, 1915. 24 pp. Illustrated. 15 cents

HEWES, LAURENCE I., Chief, Economics and Maintenance, Office of Public Roads, and GLOVER, JAMES W., Professor of Mathematics and Insurance, University of Michigan, Collaborator, Office of Public Roads.

Highway Bonds: A Compilation of Data and an Analysis of Economic Features Affecting Construction and Maintenance of Highways Financed by Bond Issues, and the Theory of Highway Bond Calculations. (Bulletin No. 136 of the United States Department of Agriculture, Office of Public Roads. Logan Waller Page, Director.) Charts, tables and illustrations. 136 pp. Feb. 12, 1915. 25 cents

BOSTWICK, ANDREW LINN, Librarian, Municipal Reference Branch, St. Louis Public Library.

The Regulation of the Jitney Bus, A Discussion of City Ordinances. (Municipal Reference Number of the St. Louis Public Library Monthly Bulletin. New Series, Vol. 13, No. 7.) 30 pp. July, 1915. Free

CURTIS, FLORENCE RISING, Instructor, University of Illinois Library School.

The Collection of Social Survey Material. (Pamphlet issued by the American Library Association Publishing Board.) 1915. 15 pp. 15 cents

CHICAGO MUNICIPAL REFERENCE LIBRARY.

Speculation or Scalping in Amusement Tickets. Analysis of Municipal Ordinances Prohibiting or Regulating the Sale of Tickets of Admission at Advanced Prices. Prepared at the request of Alderman Willis O. Nance, member of the Chicago City Council.) May, 1915. 20 pp. Free

HIGHLAND, SCOTLAND G.

Plumbing Code and Control of Plumbers. 1915. 12 pp. Illustrated. Free

CITIZENS UNION OF THE CITY OF NEW YORK.

Preliminary Brief for Municipal Home Rule, submitted to the Constitutional Convention of 1915 by the Citizens Union of the City of New York. 11 pp. Free

BRANCH, G. V., Investigator in City Marketing, Office of Markets and Rural Organization.

Retail Public Markets. (From Yearbook of Department of Agriculture for 1914.) 1915. 184 pp. Illustrated. 5 cents



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Even though they are the most efficient fighters and your apparatus the best, fire can't be fought successfully when there is poor water pressure, caused by clogged water mains.

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UNITED STATES DEPARTMENT OF COMMERCE,
BUREAU OF THE CENSUS.

Central Electric Light and Power Stations and Street and Electric Railways, 1912. (With Summary of the Electrical Industries.) 1915. Quarto. 440 pp. Maps, diagrams, photographs. \$1.00

This volume is one of two in which are presented statistics of the electrical industries based on the census of 1912, the other being devoted to telephones and telegraphs and municipal electric fire-alarm and police-patrol signaling systems. In the report on central electric light and power stations and street and electric railways there are given detailed statistics covering the development of the industries, output, equipment, finances, traffic, employees, and salaries and wages, together with descriptive and analytical text. The illustrations are numerous. An interesting feature is the inclusion of two articles by Thomas Commerford Martin, secretary of the National Electric Light Association, one discussing the recent developments and advances in the light and power station industry and the other dealing with street and electric railways.

UNITED STATES DEPARTMENT OF COMMERCE,
BUREAU OF THE CENSUS.

Telephones and Telegraphs and Municipal Electric Fire-Alarm and Police-Patrol Signaling Systems, 1912. 1915. Quarto. 208 pp. Maps and diagrams. 50 cents

This is the companion volume of "Central Electric Light and Power Stations and Street and Electric Railways," the two combined giving full statistics of the electrical industries in the year 1912. About two-thirds of the present volume is concerned with telephones, tracing the development of the industry, and giving statistics of equipment and traffic; comparison of Bell and other systems, financial statistics, and schedules of telephone exchange rates in 1,160 representative cities and towns in the United States. Data relative to land, ocean and wireless telegraphs, both commercial and governmental, are given. In the statistics of municipal electric fire-alarm and police-patrol signalling systems, only those systems are comprised with are used exclusively for sending signals or messages to the central offices of fire or police departments, local telephone systems adapted for the conveyance of alarms not having been included in the census.

THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS.

Rules for the Construction of Stationary Boilers and for Allowable Working Pressure. (Report of The Boiler Code Committee.) 1914. 114 pp. Diagrams. Single copies to non-members of the Society, 80 cents; special rates on large orders.

UNITED STATES BUREAU OF STANDARDS.

Safety Rules to be Observed in the Operation of Electrical Equipment and Lines. (Bureau of Standards Circular No. 49; Part 4 of the Proposed National Electrical Safety Code.) Second edition. May 4, 1915. 50 pp. 5 cents

CITY COUNCIL OF THE CITY OF CHICAGO.

An Ordinance Regulating the Manufacture, Storage, Use, Sale or Distribution of Inflammable Liquids. (Pages 4225-4248, in Journal of the Proceedings of the City Council, March 29, 1915.) Free

NATIONAL FIRE PROTECTION ASSOCIATION.

Field Practice. (The Inspection Manual of the National Fire Protection Association.) 1914. 199 pp. \$1.50

NEW YORK STATE DEPARTMENT OF HEALTH.
The County Tuberculosis Hospital. (Special Bulletin No. 5; issued by the Division of Publicity and Education.) 1915. 24 pp. Illustrated. Free

Contains "The County Tuberculosis Hospital; Why Every County Needs One," by Edward A. Morse, Advisory Expert in Public Health Education, State Department of Health; and "Tuberculosis Hospital and Sanatorium Facilities of New York State," reprinted from a bulletin of the State Charities Aid Association.

RUSSELL SAGE FOUNDATION.

Boyhood and Lawlessness. The Neglected Girl. By Ruth S. True. (West Side Studies, carried on under the direction of Pauline Goldmark.) 1914. viii + 143 pp. Illustrated. \$2.00

The district selected for study consists of the detached and lawless section of 80 blocks, in the West Side district of New York City, which border upon the Hudson River, between Thirty-fourth and Fifty-fourth Streets, where, it is believed, are centered some of the most acute problems of modern urban life. The book aims to describe with sympathy and insight the conditions here found; it does not attempt to prove preconceived ideas or test the efficacy of any special remedies. With regard to the boys, lack of opportunity for play and physical freedom are found to be a chief cause of delinquency. The girls are equally handicapped by want of undertaking and care on the part of parents and community. The futility of placing all the blame for misdemeanors upon these juvenile offenders, and of endeavoring to reform them, through the courts and through charity, without reforming their surroundings, becomes evident from a reading of the book.

DAVIS, PHILIP, Head Worker, Civic Service House, Boston, Editor, in collaboration with

HERMAN, MAIDA.

The Field of Social Service, 1915. 436 pp. Illustrated. \$1.62

A book which had its origin in the need for a reference or text book covering the entire field of social service, for use in a course intended for voluntary social workers. The plan takes the form of articles under these main divisions: "Background in Social Work"; "Community Problems"; "The Community and the Child"; "Social Agencies"; "Salaried Positions in Social Work" (Supplement I); "Opportunities for Training in Social Work" (Supplement II). Among the large number of well-known contributors are the following: Joseph Lee, Meyer Bloomfield, John Ihlder, Samuel McCune Lindsay, and Henry Bruere. An article is included on the opportunities for civic and social work open to commercial executives.

AMERICAN JOURNAL OF PUBLIC HEALTH.

Articles on Negro Health. (Pages 183-203; 207-224, *American Journal of Public Health*, March, 1915.) 30 cents

"The Negro Health Problem in Southern Cities," by William F. Brunner, M. D., Health Officer, Savannah, Ga.; "The Negro Health Problem in Rural Communities," by A. G. Fort, Ph. B., M. D., Director of Field Sanitation, Georgia State Board of Health; "The Negro as a Problem in Public Health Charity," by Lawrence Lee, M. D., Savannah, Ga.; "Practical Remedial Measures for the Improvement of Hygienic Conditions of the Negroes in the South," by M. L. Graves, M. D., Galveston, Tex.; "Syphilis Among Insane Negroes," by S. S. Hindman, M. D., Pathologist, Georgia State Sanitarium, Milledgeville, Ga.

WILEY, MABEL A.

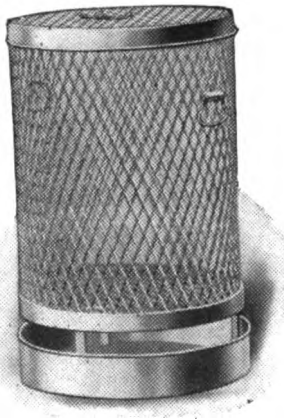
A Study of the Problem of Girl Delinquency in New Haven. (Document of The Civic Federation of New Haven, No. 15; prepared for the Section on Social and Industrial Conditions.) March, 1915. 39 pp. One map. Free

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FRANCIS, HENRY R., Assistant Professor of Landscape Extension, The New York State College of Forestry at Syracuse University.

Suggestions for Proper Procedure in Systematic Street Tree Planting for Towns and Cities of New York. (Bulletin of The New York State College of Forestry, March, 1915. Vol. XV, No. 4.) 56 pp. Illustrated. **Free**

BETZ, DR. HERMAN, Chief of the Division of Food and Drug Inspection, New York Bureau of Food and Drugs.

Sophistication and Contamination of Food Products. (Monthly Bulletin of the Department of Health of the City of New York, Vol. V, No. 6, June, 1915.) 7 pp. **Free**

CARTER, H. R., Senior Surgeon, United States Public Health Service.

Malaria: Lessons on Its Cause and Prevention. (Prepared for use in schools.) Supplement 18 to Public Health Reports. Revised edition, January 20, 1915. 24 pp. Illustrated. **10 cents**

LE PRINCE, J. A. A., Sanitary Engineer, United States Public Health Service.

Control of Malaria; Oiling as an Anti-Mosquito Measure. (Reprint No. 260 from the Public Health Reports, February 26, 1915.) 12 pp. Diagrams. **5 cents**

LUMSDEN, L. L.

Typhoid Fever: Its Causation and Prevention. (Public Health Bulletin No. 69 of the United States Public Health Service. Prepared by direction of the Surgeon-General.) May, 1915. 22 pp. Illustrated. **5 cents**

JAMESON, ROBERT M., Secretary of the Bureau of Municipal Research and Reference, University of Texas.

A Model Health Code for Texas Cities. (Bulletin of the University of Texas. No. 23, April 20, 1915. Municipal Research Series No. 8.) 95 pp. Bibliography. **Free**

BROWN, EDWARD F., Superintendent, Bureau of Welfare of School Children, New York Association for Improving the Condition of the Poor.

The Health Supervision of School Children of New York City. (Reprinted from *The Medical Review of Reviews*, September, 1914. Published by The New York Association for Improving the Condition of the Poor.) **Free**

HESS, ALFRED F., M.D., Visiting Physician, Willard Parker Hospital.

The Neglect to Provide for the Infant in the Antituberculosis Program. (Published by the Department of Health of the City of New York; reprint series, No. 25, February, 1915.) **Free**

Reprinted from *The Journal of the American Medical Association* for December 19, 1914.

THE CIVIC PRESS.

The American City Pamphlets. (The complete list to date.)

Water Consumption of Cities. The Effect of Meters on Water Consumption. (Tables.) No. 98. 10 cents.

Some Fundamentals of Housing Reform. By Dr. James Ford, Harvard University. No. 99. 15 cents.

How to Attack the Sewage and Garbage Problems. By Rudolph Hering, Consulting Engineer, New York City. No. 100. 10 cents.

The Esthetic Treatment of City Bridges. By Henry Grattan Tyrrell, C. E., Consulting Engineer, Evanston, Ill. No. 101. 15 cents.

How to Organize a City Planning Campaign. By Frederick Law Olmsted. No. 102. 15 cents.

Public Laundries in America. By Donald B. Armstrong, M. D., Superintendent Bureau of Public Health and Hygiene, New York Society for Improving the Condition of the Poor. No. 102a. 10 cents.

Refuse Disposal in Small Cities and Towns. By Samuel A. Greeley. No. 103. 10 cents.

The Duty of Municipal Food Inspection. By William P. Capes. No. 104. 10 cents.

Fighting Fires Before They are Lit. By Martin H. Ray. No. 105. 10 cents.

How to Promote the Planting and Care of Shade Trees. By J. J. Levison. No. 106. 10 cents.

The Efficient Utilization of Water Storage Reservoirs. By George W. Fuller. No. 107. 10 cents.

The City's Need, the University's Opportunity. By Herman J. James, J. D., Ph. D. No. 108. 10 cents.

A Notable Development in Ornamental Street Lighting. By Walter C. Allen. No. 109. 10 cents.

How to Determine Relative Values in Sanitation. By George C. Whipple. No. 110. 15 cents.

Co-partnership in Housing in Great Britain. By Henry Vivian, J. P. No. 111. 15 cents.

Relation of the Motor Bus to Urban Development. By F. Van Z. Lane. No. 112. 15 cents.

Has Your City These Maps? By William P. Capes. No. 113. 10 cents.

Water Supplies and the Part They Play in City and County Planning. By Charles W. Leavitt, Jr. No. 114. 15 cents.

Chambers of Commerce and City Planning. By George B. Ford. No. 115. 10 cents.

The Modern Park Cemetery. By Hare & Hare, Landscape Architects, Kansas City, Mo. No. 116. 15 cents.

Public Comfort Stations; Their Economy and Sanitation. By Donald B. Armstrong, M. D. No. 117. 15 cents.

Rose Valley—A Garden Suburb (near Philadelphia). No. 118. 10 cents.

Public Health Work in Rural Communities. By Samuel A. Greeley, C. E. No. 119. 15 cents.

Public Bath Houses and Swimming Pools. By Dr. William Paul Gerhard, C. E. No. 120. 20 cents.

Civic Unification of a Small City. By Frank Koester, Consulting Civic Engineer. No. 121. 15 cents.

A Model Wet-Wash Laundry. By Philip S. Platt, M. A. No. 122. 10 cents.

A Combination of Municipal and Privately Owned Utilities. By G. B. Baskerville, Jr. No. 123. 10 cents.

A List of City-Planning Reports. No. 124. 15 cents.

Handicaps to Legal Bond Issues. By Robert R. Reed. No. 125. 10 cents.

Water-Supply, Sewage and Refuse Disposal for Small Towns and Villages. By Rudolph Hering, D. Sc. No. 126. 15 cents.

City Planning and Real Estate. By George B. Ford. No. 127. 10 cents.

Coniferous Evergreens and Evergreen Shrubs for Parks and Public Grounds. By H. E. Holden. No. 128. 15 cents.

Points of Difference in Water Works Franchises. By Philip Burgess. No. 129. 10 cents.

The Jitney Bus. By Clyde Lyndon King, Ph. D. No. 132. 15 cents.

Engineering Cooperation—A Plan for Municipal Economy in Small Communities. By Frederic Bass. No. 130. 10 cents.

A Step Towards Solving the Industrial Housing Problem. By Warren H. Manning. No. 131. 10 cents.



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Conventions and Exhibitions

ON THE CALENDAR

AUGUST 16-28.—OAKLAND, CAL.

National Education Association of the United States. Secretary, Durand W. Springer, Ann Arbor, Mich.

AUGUST 18-20.—SAN FRANCISCO, CAL.

The American Association of Park Superintendents. Secretary, R. W. Cotterill, Seattle, Wash.

AUGUST 23-25.—SAN FRANCISCO, CAL.

National Single Tax Conference. Secretary of the Conference Committee, James H. Barry, of the San Francisco *Star*.

AUGUST 24-27.—CINCINNATI, OHIO.

International Association of Municipal Electricians. Secretary, Clarence R. George, Houston, Tex.

AUGUST 24-27.—BOSTON, MASS.

National Conference on Universities and Public Service. Held under the auspices of the Society for the Promotion of Training for Public Service. Secretary of Conference, Edward A. Fitzpatrick, Box 380, Madison, Wis.

AUGUST 31-SEPTEMBER 3.—CINCINNATI, OHIO.

International Association of Fire Engineers. Secretary, James McFall, Roanoke, Va.

SEPTEMBER 7-9.—NEW YORK CITY.

The New England Water-Works Association. Secretary, Willard Kent, Narragansett Pier, R. I.

SEPTEMBER 6-11.—OAKLAND, CAL.

League of California Municipalities. Secretary, H. A. Mason, Pacific Building, San Francisco, Cal. Joint Meeting with the California Conference on City Planning.

SEPTEMBER 8-10.—CINCINNATI, OHIO.

Smoke Prevention Convention. Address Smoke Inspector Towner, Grand Rapids, Mich.

SEPTEMBER 7-10.—ROCHESTER, N. Y.

American Public Health Association. Secretary, Selskar M. Gunn, 755 Boylston Street, Boston, Mass.

SEPTEMBER 13-16.—ATLANTIC CITY, N. J.

Association of American Portland Cement Manufacturers. Secretary, Percy H. Wilson, Land Title Building, Philadelphia, Pa.

SEPTEMBER 13-17.—OAKLAND, CAL.

Pan-American Road Congress. Under joint auspices of American Road Builders' Association and the American Highway Association. Secretary American Road Builders' Association, E. L. Powers, 150 Nassau Street, New York City. Executive Secretary American Highway Association, I. S. Pennybacker, Colorado Building, Washington, D. C.

SEPTEMBER 13-17.—SAN FRANCISCO AND OAKLAND, CAL.

Tri-State Good Roads Association. Good Roads Congress. Secretary, George E. Boos, Medford, Ore. (Meeting to be merged with the Pan-American Road Congress.)

SEPTEMBER 16-17.—SAN FRANCISCO, CAL.

American Society of Mechanical Engineers. Secretary, Calvin W. Rice, 29 West Thirty-ninth Street, New York City.

SEPTEMBER 16-18.—SAN FRANCISCO, CAL.

American Society of Civil Engineers. Annual Convention. Secretary, Charles Warren Hunt, 220 West Fifty-seventh Street, New York City.

SEPTEMBER 16-18.—SAN FRANCISCO, CAL.

American Institute of Electrical Engineers. Secretary, F. L. Hutchinson, 33 West Thirty-ninth Street, New York City.

SEPTEMBER 20-23.—SEATTLE, WASH.

American Association of Public Accountants. Secretary, A. P. Richardson, 55 Liberty Street, New York City.

SEPTEMBER 20-23.—WASHINGTON, D. C.

Illuminating Engineering Society. Secretary, J. D. Israel, 29 West Thirty-ninth Street, New York City.

SEPTEMBER 20-25.—SAN FRANCISCO, CAL.

International Engineering Congress. Secretary, W. A. Catell, Foxcroft Building, San Francisco, Cal.

SEPTEMBER 26-OCTOBER 10.—DENVER, COL.

International Soil-Products Exposition. Address Secretary International Dry Farming Congress, Ralph H. Faxon, Denver, Col.

SEPTEMBER 27-29.—ST. LOUIS, MO.

National Association of Commercial Organization Secretaries. Secretary, James A. McKibben, Secretary Chamber of Commerce, Boston, Mass.

SEPTEMBER 28-30.—SPOKANE, WASH.

League of Pacific Northwest Municipalities. Annual Conference. Secretary, Charles G. Haines, Ph.D., Whitman College, Walla Walla, Wash.

OCTOBER 6-8.—MINNEAPOLIS, MINN.

National Housing Association. Secretary, Lawrence Veiller, 105 East Twenty-second Street, New York City.

OCTOBER 11-12.—DAYTON, OHIO.

National Paving Brick Manufacturers' Association. Secretary, Will P. Blair, 824 Locomotive Engineers' Building, Cleveland, Ohio.

OCTOBER 11-15.—DAYTON, OHIO.

American Society of Municipal Improvements. Secretary, Charles Carroll Brown, 702 Wulsin Building, Indianapolis, Ind.

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is specified and handled right, for every bag of ALPHA is guaranteed to more than meet all standard requirements.

Six great ALPHA plants on six trunk-line railroads; one plant with private docks directly on the Hudson River; capacity, 25,000 barrels daily; storage for 2,000,000 barrels. Specify ALPHA and be sure of prompt shipments of properly burned, properly ground, properly aged cement at all times, and a service that is on a par with the high quality of ALPHA Cement.

Let us send you, free of charge, valuable literature dealing with the use of ALPHA Portland Cement, with concrete buildings, walks, driveways, and concrete improvements generally. Ask for ALPHA Book No. 2, and ask also for special literature on the kind of concrete work that most interests you.

Alpha Portland Cement Co.

General Offices:
EASTON, PA.

Branch Offices:
New York Chicago Philadelphia
Boston Pittsburgh Buffalo
Baltimore Savannah



National Association of Commercial Organization Secretaries

At the Planters' Hotel, St. Louis, Mo., September 27-29, inclusive, will be held the annual meeting of the National Association of Commercial Organization Secretaries. It will be the first convention of the new association, which was formed in Cincinnati last year as a consolidation of the American Association of Commercial Executives and the Central Association of Commercial Secretaries. An excellent series of papers and discussions has been arranged for by the Committee on Program, which consists of William George Bruce, Secretary, Merchants' and Manufacturers' Association, Milwaukee; John Wood, Secretary, Chamber of Commerce, Roanoke, Va., and Howard Strong, Secretary, Minneapolis Civic and Commerce Association.

The principal features of the program are:

Address by President S. Cristy Mead, Secretary, The Merchants' Association of New York.

"Organization Advertising, Committee Report II," by Carl Dehoney, manager, Convention and Publicity Department, Chamber of Commerce, Cincinnati.

Thorndike Deland, Secretary, Chamber of Commerce, Denver, Colorado.

"Most Helpful Secretarial Literature," by Roland B. Woodward, Secretary, Chamber of Commerce, Rochester, N. Y.

"Organization Costs and Results," by George W. Gillette, Secretary, Chamber of Commerce, Columbus, Ohio.

"The Problems of the Commercial Organization in the Town and Small City," by J. P. Hardy, Secretary, Commercial Club, Fargo, North Dakota.

"The Technique of Association Administration," by Robert Wadsworth, Secretary, Chamber of Commerce, Youngstown, Ohio.

"The University and the Secretary," by Edward D. Jones, Dept. of Economics, University of Michigan.

"Agricultural and Commercial Organizations," a committee report on the subject, by W. E. Holmes (Chairman), Secretary, Commercial Club, Sioux City, Iowa; Bruce Kennedy, General Secretary, Business Men's League, Montgomery, Ala.; Carl J. Baer, Secretary, Chamber of Commerce, Little Rock, Ark.; L. B. Dunham, Assistant Secretary, Chamber of Commerce, Cleveland, Ohio; H. V. Eva, General Secretary, Commercial Club, Duluth, Minn.

"State and Sectional Organizations," a committee report on the subject, by J. R. Babcock (Chairman), Secretary, Chamber of Commerce, Dallas, Tex.; F. C. Butler, Secretary, Chamber of Commerce, Jamestown, N. Y.; Howard R. Heydon, Federation Secretary, New Jersey State Chamber of Commerce, Jersey City, N. J.; Walter S. Whitten, Secretary, Commercial Club, Lincoln, Neb.; John Wood, Secretary, Chamber of Commerce, Roanoke, Va.

+ +

Exhibition of Street Cleaning Apparatus and Appliances

New York Department of Street Cleaning announces that it will hold its second annual exhibition of Street Cleaning Apparatus and Appliances in the First Regiment Field Artillery Armory, Sixty-eighth Street

and Broadway, New York City, during the week beginning October 11, 1915.

The street cleaning apparatus eligible to entry includes all sorts of brooms, brushes, sweeping machines, flushing machines and other equipment or appliances used in cleaning streets and removing snow; carts, wagons, motor trucks or other vehicles used for collecting garbage, ashes, rubbish and street sweepings; conveyances for transporting refuse, by water or by rail; methods for the disposal of garbage, ashes, rubbish and street sweepings, including garbage-reduction work, garbage crematories, incinerators, destructors, etc.

Exhibitors will not be required to pay entrance fees; legitimate street-cleaning apparatus and appurtenances will be given free space in the exhibition hall. Other costs of placing their exhibits and all risks must, however, be borne by the exhibitors, excepting that storage will be provided, without charge, for pieces of apparatus which arrive in the city of New York prior to the evening of October 9. Application for space should be made prior to September 10.

Commissioner J. T. Fetherston expects that at the time of this year's exhibition the "Model District," for which a special fund was provided by the Board of Estimate and Apportionment, and which is to be equipped with modern apparatus, will be well under way. The "Model District" should prove an attraction to manufacturers and inventors, as well as to visiting officials.

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Pan-American Road Congress

The advance program of the Pan-American Road Congress outlines the work to be followed at the ten sessions which will be held at the Municipal Auditorium, Oakland, Cal., September 13-17, inclusive.

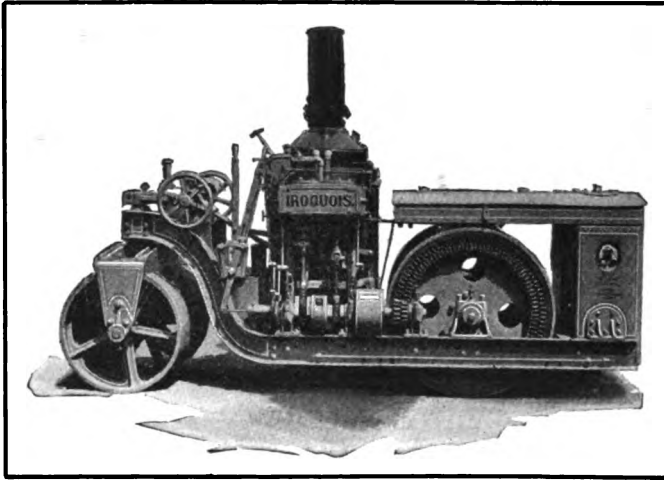
The Congress is to be held under the auspices of the American Road Builders' Association and the American Highway Association, acting jointly. Assistance in details on the Pacific Slope will be rendered by the Tri-State Good Roads Association and the Pacific Highway Association.

The Executive Committee of the Pan-American Congress consists of Governor Charles W. Gates of Vermont, chairman, Franklin, Vt.; Major W. W. Crosby, Program, Baltimore, Md.; James H. MacDon-

IROQUOIS

Paving and Road Making Machinery and Tools

**The long-
service,
trouble-
proof line.
Based on
22 years'
experience
in design
and use.**



**Send your
name for
Highway
Builders'
mailing
list.
Prompt
shipment
from stock.**

**Portable, Semi-Portable and Stationary Asphalt Plants
Tandem and Macadam Rollers (all sizes)
Heating Kettles (50 to 400 gals.)
Fire Wagons, Surface Heaters, Tampers
Hand Rollers, Pouring and Melting Pots, etc., etc.**

Write for Special Bulletin

1915 Iroquois Portable Asphalt Plant

Increased Capacity, Convenience, Economy

The Barber Asphalt Paving Company
Iroquois Works **Buffalo, New York**

ald, Finance, New Haven, Conn.; J. E. Pennybacker, Arrangements, Willard Building, Washington, D. C., and E. L. Powers, Publicity, 150 Nassau Street, New York.

Among the acceptances already received from those designated by the Committee on Program are the following:

S. E. Bradt, Secretary, Illinois Highway Commission.
H. E. Breed, First Deputy, State Highway Commission, New York.

Lamar Cobb, State Engineer, Arizona.

G. P. Coleman, State Highway Commissioner, Virginia.

W. H. Connell, Chief, Highway Bureau, Philadelphia.

Geo. W. Cooley, State Highway Engineer, Minnesota.

A. W. Dean, Chief Engineer, Massachusetts Highway Commission.

Henry Welles Durham, formerly Highway Engineer, Borough of Manhattan.

A. B. Fletcher, State Highway Engineer, California.

W. S. Gearhart, State Highway Engineer, Kansas.

S. D. Gilbert, Auditor, State Highway Commission, New York.

Henry S. Graves, Chief, U. S. Bureau of Forestry.

Fairfax Harrison, President, A. H. A., Washington, D. C.

Curtis Hill, City Engineer, Kansas City, Mo.

Prevost Hubbard, U. S. Department of Agriculture.
A. N. Johnson, Bureau of Municipal Research, New York City.

H. J. Kuelling, County Highway Commissioner, Milwaukee, Wis.

N. P. Lewis, Chief Engineer, Board of Estimate and Apportionment, New York City.

James H. MacDonald, formerly Highway Commissioner of Connecticut.

T. W. MacDonald, State Highway Engineer, Iowa.

W. A. McLean, Chief Engineer, Ontario Highway Commission.

E. R. Morgan, State Road Engineer, Utah.

M. M. O'Shaughnessy, City Engineer, San Francisco.

L. W. Page, Director U. S. Office of Public Roads.

Dr. J. H. Pratt, State Geologist, North Carolina.

F. F. Rogers, State Highway Commissioner, Michigan.

William R. Roy, State Highway Commissioner, Washington State.

Paul D. Sargent, Chief Engineer, Maine Highway Commission.

Prof. L. S. Smith, University of Wisconsin.

W. D. Sobier, Chairman, Massachusetts Highway Commission.

Col. E. A. Stevens, State Commissioner of Public Roads, New Jersey.

George W. Tillson, President A. R. B. A., Borough of Brooklyn, N. Y.

W. D. Uhler, Chief Engineer, Pennsylvania Highway Department.

A. D. Williams, Chief Road Engineer, West Virginia.

J. F. Witt, County Engineer, Dallas, Texas.

Securing Satisfactory Street Shade Trees

By Harry J. Mueller

City Forester, Department of Parks, Harrisburg, Pa.

Probably no work in horticulture requires more judgment and good management than the planting of trees along city streets, with all their modern improvements. The soil and materials of which streets are formed are usually ill-fitted to sustain the healthy growth of a tree. This, together with the impurities in the air—the injurious smoke and gases in the manufacturing districts—makes its life almost impossible.

Selection of Varieties

It is necessary, therefore, that selection of trees for our streets should be limited to varieties that thrive under these adverse conditions. Taking all the points into consideration, the most satisfactory trees for street purposes include Norway and sugar maples, oriental plane, linden, American elm, sweet gum, red and pin oak, horse chestnut, tulip and ginkgo. These include all the good qualities desired in a shade tree, and readily adapt themselves to their environments.

Care should be taken to have a straight trunk, with the head beginning not lower than seven feet, with strong leaders—for on these depend the future shape of the tree. Although the tree is to be more or less formal in shape, its natural habit of growth should be preserved, at the same time keeping it symmetrical and full-headed.

The top should be cut back to about one-third. For the best results the active leaf surface and the active rootlets must be in direct proportion. The interdependence of the roots and leaves is complete. If the leaves are destroyed by insect attack, a corresponding

amount of roots dies from lack of nourishment; if roots are reduced in transplanting, the foliage of the whole top will suffer in proportion, and probably not survive the shock.

In the nursery the tree should be trained to withstand the hardships of its final home. Annual transplanting cuts the long anchor roots and develops lateral rootlets, as lateral branches are developed when the leader is headed back. In this way a bunchy, fibrous root system is obtained that will sustain the demands of the top when the tree is finally planted.

Preparation of Soil

At least 56 cubic feet of ground should be excavated from the hole, and good top soil, enriched with well-rotted manure or bone meal, should take the place of the clay hardpan, brickbats, cement, broken bottles, and other refuse materials usually encountered.

There is one condition of soil which is most favorable to all trees, and that is a deep, moderately loose, sandy loam, which permits satisfactory aeration and furnishes an even water supply.

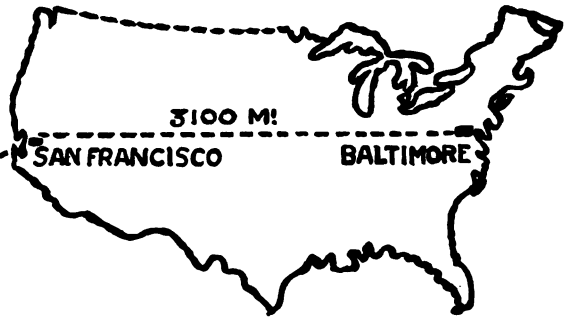
Air and Water Essential

Besides food, a tree, like an animal, needs air for respiration. Not only the leaves, but the surface of the twigs, branches and roots are covered with breathing pores which conduct air into the interior.

That roots breathe is often forgotten. When a tree is planted too deeply, or the ground around it raised in course of improvements,

MUNICIPAL SHOPPING VIA WIRELESS

HONOLULU



When the city of **Honolulu, T. H.**, decided to register Motor Vehicles, this thriving community searched the world for the "best" possible product at the "best" price.

Naturally, attention was directed to Baltimore, the home of "**BALTO**" **Porcelain Enameled Iron Signs**. In this particular instance **TIME** was at a premium—**Honolulu** talked with us via **WIRELESS**—in "72 hours" this contract was closed and part of Honolulu's order for Automobile and Motorcycle License Tags was **ACTUALLY IN WORK**—that's service.

Service alone did not guarantee this contract—**quality, finish and dependability** were the virtues which first suggested themselves to the officials of this far away city, and these virtues alone have given our product the world-wide distribution it now enjoys. For **quality** and **service** in the development of the most modern and artistic **municipal signs**, we lead.

Sketches, quotations, suggestions and samples are yours for the asking. Write our Service Bureau—

Department C

THE BALTIMORE ENAMEL & NOVELTY CO

BALTIMORE, MD., U. S. A.

many a tree is lost by this act of ignorance. The more compact the soil, the deeper the cover, the surer the result—death from suffocation. The same is true of trees having wet feet, *i. e.*, overflooded with water—the reduction of air kills them.

Sub-Soiling Necessary

It is, therefore, absolutely necessary to sub-soil the bottom of the hole prepared for the tree, in order that it may live under these artificial conditions. A half stick of 20 per cent Red Cross dynamite exploded in the bottom of the hole at the depth of 3 feet will produce the needed natural condition—rendering the soil porous and easily aerated. It will also reestablish the line of communication between the top soil and the water table by which the tree will be amply supplied with all the water it needs, without depending on what comes to it from the surface. This is very important, as a good sized tree ten years old, in full leaf, will draw through its stem and give off into the air, through its leaves, thirty or more barrels of water daily. If it had to depend on what came to it in the form of rain, it wouldn't last a week.

By tamping the bore hole with bone meal, an additional benefit is received, a good plant food being thus evenly distributed through the soil to be gradually available to the growing rootlets.

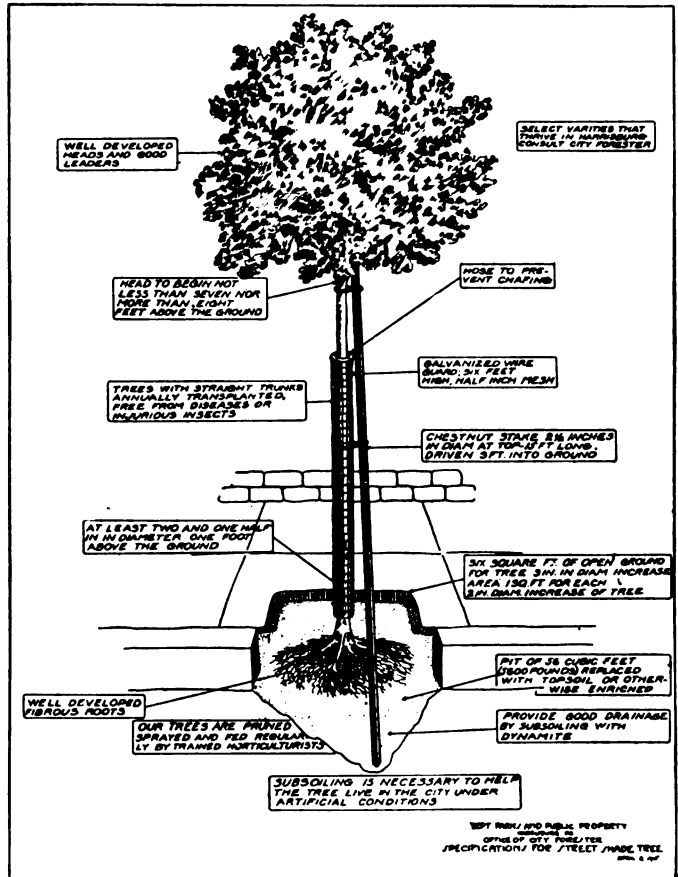
How to Set the Tree

The tree should be set about as deep as it stood in the nursery, the roots spread naturally. Sift fine soil around the roots and work it in close to them with a pointed stick, so that no spaces remain unfilled to within 4 inches of the top. This is then firmly tamped with a stomper and saturated with water. When it has absorbed all the water it can hold, cover it with a loose soil to act as a blanket in retaining the moisture.

A 15-foot stake should be used in order to support the top, as well as the stem, and keep it from being bent out of shape by strong winds. Trees with heavy foliage often have their tops snapped off in the winds. The constant swaying of the stem also interferes with the establishment of fine hairlike feeding roots in the soil.

Later Care

In order to keep the trees growing, constant care is necessary. Cultivation by keeping the ground broken up to retain the moisture is as important for the tree as the cultivation of field crops. Evaporation is taking place over every square inch of soil exposed around the tree. If the opening contains 6 square feet, or 864 square inches, the tree occupies but 10 square inches, or 1/86th of the total area.



SPECIFICATIONS FOR STREET SHADE TREE

When the ground becomes hard and caked, the tree receives just 1/86th of the moisture given off each day, but if the ground is covered with a dust mulch practically all the moisture goes through the tree, and is used by the leaves in manufacturing starch and wood.

A few handfuls of ground bone spaded into the ground in the spring will help materially in pushing the tree ahead. Water only during very dry spells; too frequent watering will rot the roots.

If these directions are followed you can hardly lose the tree in transplanting, and in a few years you will have a tree worthy of your efforts, instead of one that merely exists.

EVERWEAR

STANDS WEAR AND TEAR

All-Steel Playground Apparatus for Parks, Public Playgrounds, Schools, Private Yards, etc.



An all-steel galvanized product throughout, specially designed for the wear and tear of outdoor use. All details of bearings, connections, etc., have

been worked out to the highest standard of perfection. Pipe Fittings which are **threadless** and require no set screws, drilling or tapping of either fitting or pipe, thus simplifying and cheapening the cost of erection.



Perhaps we can be of service to you in deciding the problem of equipment. Write us fully advising as to your ground space, apparatus desired, and we will cheerfully furnish plans and prices gratis. Our Services are yours for the asking.

Catalog C-3 covering a full line of the latest and approved playground apparatus sent on request.



**EVERWEAR
MFG. CO.**

Springfield, Ohio

Methods, Materials and Appliances

News from Engineers, Manufacturers and Supply Houses

The 700,000th Meter—A Novel Distribution

After the 600,000th meter of the Thomson Meter Company, of Brooklyn, N. Y., was completed (September, 1913), every officer and employee received a cash gift from the company. The 700,000th meter having been finished June 16, 1915, a similar celebration was planned for and took place on July 2nd, at which time another series of cash gifts was distributed.

On account of illness Mr. Frank Lambert,



the president, was not able to attend the festivities, and the treasurer, Mr. Joseph W. Kay, presided, assisted by the secretary, Mr. Seth D. Higley. Luncheon was served after the distribution of gifts, and all joined in singing, in honor of Mr. Lambert, "For he is a jolly good fellow." Prominent on the table at which Mr. Kay presided was the silver loving cup that was presented to the company by the employees in 1913; this cup was filled with flowers and at its base was a placard inscribed with these words of Mr. Kay's: "A single flower to the living while we can view its beauty and smell its fragrance is better than those piled mountain high on the caskets of the dead." It was after the impressive repetition of this sentence that, when the gifts were distributed, each employee was given a single flower.

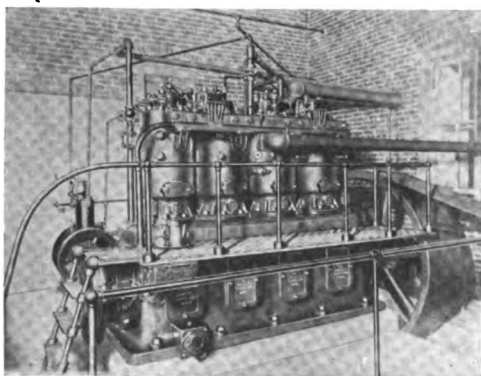
It was a joyous occasion in an atmosphere of harmony, for the closest ties seemed to bind workmen and officials and in turn to bind both to that intangible thing "the company." So

much was this felt that a visitor was led to exclaim, "And yet it is said corporations have no souls."

+ +

Gas Power Plants for Municipal Service

The accompanying illustration shows the municipal power plant of the city of Bradford, Pa., one 135-horsepower Bruce-Macbeth gas engine, which furnishes power for operating a 2,000,000-gallon capacity centrifugal pump. During a given summer period this outfit pumped 180,000,000 gallons of water at a cost of \$7.66 per million gallons. Previous to this installation the cost of operating this plant had been approximately four times as much (\$28.94 per million gallons). Owing to the efficient operation of this pumping plant the fire underwriters voluntarily reduced the insurance rates in this locality from 25 to 50 per cent. These facts are taken from the published annual report of the Water Commissioners of Bradford, Pa., to the state.



Bruce-Macbeth gas engines, which are manufactured by the Bruce Macbeth Engine Company, of Cleveland, are used very extensively in municipal service. The engineering department of this company is at the service of any municipality or public utility corporation supplying either electrical current or water. It will be glad to make a thorough investigation of the requirements in any particular case, and to offer recommendations covering the outfit and method of installation that will give the best results for the service desired, also to give a definite estimate of annual cost of operation.

Cyclone-Waukegan Sanitary Fence

SOLVES THE BACK-YARD PROBLEM

The most effective enemy of dirt and disorder in the back yards and alleys of your town or city is

Cyclone-Waukegan Sanitary Fence

Wherever it replaces the old board fence it solves the problem of community health—tends to abolish disease and fly-breeding Conditions and transforms unsightly back yards into sanitary and safe play-grounds for children.

These photographs tell a true story. Note the contrast.

**WHICH
DO YOU
CHOOSE
?**

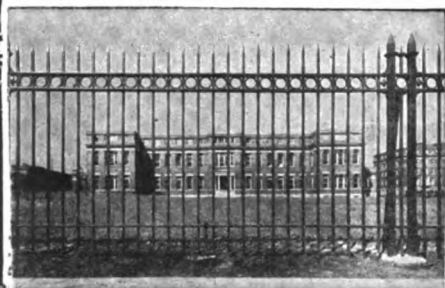
Cyclone-Waukegan Sanitary Fence

is neat and strong; built of a heavy galvanized wire, evenly spaced; firmly woven. Easy to set up on wood or iron posts; self-adjusting to uneven ground. It makes a permanent improvement that adds value to the premises

Sold Under a Strong Quality Guarantee

Illustrated Catalog giving various designs sent free on request. Write for it.

Cyclone Fence Co., Dept. 107, Waukegan, Ill.



IRON FENCES

There's an iron fence in New York that was erected in the time of King George Third. After 150 years it's as solid as ever.

If right materials and workmanship are used, iron fences and gateways have an everlasting lastingness. It's the kind we build. Is it the kind you want to buy?

We will if you wish design one especially for you.

Send for catalog and prices.

ENTERPRISE IRON WORKS

2445 Yandes St., Indianapolis, Ind.

TWO THOUSAND MILES PER WEEK



The capacity of our plant is about two million feet of rubber covered conductor per ten hour day.

We are equipped to handle large orders with despatch but no order is too small for expert attention.

SIMPLEX WIRE & CABLE CO

MANUFACTURERS

201 DEVONSHIRE ST. BOSTON
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Street Lighting Fixtures for Mazda "C" Lamps

With the development of the Mazda "C" lamps for high candlepower, specially designed fixtures are required in order to successfully utilize these lamps for the severe conditions of street lighting service. The life of the lamp and the efficiency of the complete unit are vitally affected by the globe shape, ventilation and weatherproof qualities of the fixture. Inasmuch as the lamp renewal cost per year for each fixture greatly exceeds the first cost of the complete fixture, it is self-evident that any construction increasing the life of the lamp without lowering the efficiency of the complete unit is of prime importance, and that no makeshift device or rebuilt arc lamp should, from an economical standpoint, be considered for installation with these comparatively expensive lamps.

The Westinghouse lighting unit shown herewith appears symmetrical, both with and without the reflector. A 20-inch reflector of the concentric type gives the fixture a finished appearance. The globe is of acorn shape, designed to utilize the light to the best efficiency. A diffusing globe is recommended on account of the high intrinsic brilliancy of the lamp, and because of its suitability for good street lighting requiring minimum glare.



MAZDA LAMP WITH REFLECTOR, SHOWING GLOBE LOWERED FOR REMOVING LAMP

For Meter Box Installations

The meter coupling yoke made by the H. W. Clark Company, of Mattoon, Ill., is designed

to be used in place of meter coupling and is adapted to installations in meter boxes of all kinds and also to meters placed in basements.



CLARK METER COUPLING YOKE

It is made up without the use of a union or right and left fitting, as there is enough flexibility in the riser pipes, owing to the manner in which the meter is cut in, to permit the assembling of the two parts of the coupling yoke after each has been screwed on to the riser pipe. The yoke is placed by cutting into the line without taking out a section, and by making a single cut do the work. When the pipe is cut in two, the ends are bent by means of a bar, lever or spade, throwing them sufficiently in opposite directions to admit the meter between the risers in a crosswise position, or at an angle of 90 degrees with the line of service pipe. The risers are held perfectly rigid, thus eliminating all possibility of meter or riser pipes coming in contact with the wall of a box body and thus conveying frost to the meter. There is an easy sliding adjustment for taking care of meters of different lengths, and all expansion and contraction of the service pipe is provided for. The lock shield adjusting screw construction, requiring a special socket key to operate, eliminates the necessity of sealing the meter, although, if a wire seal is desired in connection with the screws at the top of the meter, the same wire can readily be extended around any part of the yoke and a single seal used to seal the entire installation.

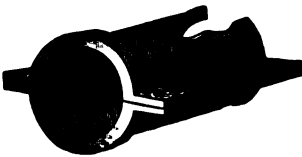
When in Doubt Specify "Clow's"

This applies to anything you may require in the equipment of water works, and guarantees prompt deliveries and satisfaction.



CAST IRON PIPE

Hub and spigot, flanged or threaded, shipped the same day orders are received.



We carry a very large and complete stock of Special Fittings. May we add your name to our Monthly Stock List?

LAMP POSTS

in large number, and in attractive designs, always on hand. Special Catalogue upon request.



CLOW MANHOLES

are made from the best pig iron, in all patterns. Let us estimate on your requirements. Other Clow Products are: Fountains, Valves, Hydrants, Plumbing, Heating and Steam Fittings.

Write for our Illustrated Catalogues and Price Lists, and get posted on "The Clow Line made for a Critical Trade."

JAMES B. CLOW & SONS

Established 1878

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Minneapolis Los Angeles San Francisco

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Chicago Newcomerstown, Ohio. Coshocton, Ohio

Sectional Construction With Interchangeable Parts Means Low Maintenance Costs



A damaged standard ordinarily calls for a *new* standard. But when a heavy *draw*, carelessly handled, crashes its terrific weight into a

UNION METAL Lamp Standard

it doesn't mean a broken standard (possibly a broken head to the passerby) — it means merely a *bent* shaft — easily and inexpensively replaced in perfect union with the old fixture and base. That's economy (and safety). Write for photos and data.

Design No. 1471-C—Patented
Equipped with Holophane Glass
Unit No. 08200

THE UNION METAL MANUFACTURING CO.

CANTON, OHIO

Canadian Union Metal Limited
Galt, Ont., Canada

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The coupling yoke will accommodate meters of every manufacture. It is made in $\frac{3}{8}$ -inch, $\frac{1}{2}$ -inch and 1-inch sizes; and also in a special $\frac{3}{8}$ -inch size to accommodate meters with $\frac{3}{4}$ -inch spuds. It is particularly well adapted to use in the South, where the meter is placed on a line with the service, and where, instead of using a riser, street ells may be connected to the service pipe and screwed into the coupling. Stop cocks may be used inside the meter box in connection with the coupling yoke, when desired. In use in basement connections the yoke is furnished with tappings in the top on one end for the outlet side of the house supply.

✦ ✦

C. F. Rouze with the Knox Associates

The Knox Motors Associates of Springfield, Mass., an association recently organized to act as sole distributors of the products of the Knox Motors Company, announces the appointment of C. F. Rouze as sales manager. Mr. Rouze succeeds H. F. Blanchard, who for several years past has been sales manager of the Knox Motors Company, and who has recently resigned that position.

Mr. Rouze has been in charge of the Knox branch office at Kansas City, Mo., since February, 1914, and because of his past experience both in the motor truck and tractor field is particularly well qualified to supervise the marketing of the latest Knox product—a four-wheeled tractor which has demonstrated its efficiency in the highway hauling of such commodities as lumber, coal, structural steel, ore, contractors' materials, etc.

✦ ✦

In the Service of a California City

Chief Frank L. Hilton, of the Alhambra, Cal., Fire Department, says that the Boyd city service truck shown on page 113 of this issue has been in service in Alhambra for 13 months and has made 37 runs to fires. In answering out-of-town calls it has been obliged to travel over some very bad roads, but no trouble has been experienced in its use. It is fitted with Goodyear solid tires, and carries 227 feet of ladders, including a 55-foot extension ladder, also a 40-gallon chemical tank, 300 feet of chemical hose, axes, a door-opener, crowbars, etc.

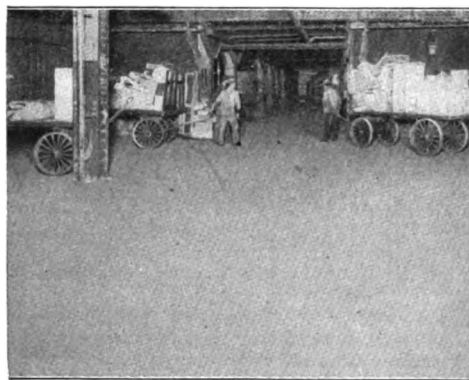
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Road Signs That Last

Woodbury County, Iowa, believes that long-lived road signs are a good thing, and they believe in telling about a good thing after they have it. Through the County Supply Company, of Sioux City, who are local agents for the Indestructible Sign Company, of Columbus, Ohio, they recently placed an order for signs for all their roads, and then when the signs were up they published an official map giving the exact wording, mileage and location of the signs. The Blue Grass Road and the Red Ball Route out of Des Moines have just been equipped with signs made by the Indestructible Sign Company, as have also the roads in Fergus County, Montana.

Waterproof Flooring for Public Buildings, Docks and Alleys

A neat leaflet issued by the H. W. Johns-Manville Company, of New York and every other large city, presents the advantages of the J-M waterproofing and mastic materials. The J-M mastic flooring made by this company has for its base Trinidad Lake asphalt. This, by reason of its ductility, toughness, strength and durability, when prepared for use in the mastic floor covering, provides a surface that is waterproof and at the same time practically wear-proof under ordinary service conditions. It is also unaffected by acids, alkali and brine. It is sanitary, as it can be quickly and thoroughly cleaned by the simple process of flushing, after which it dries out immediately. It will not originate dust, is noiseless and has a peculiar holding quality which prevents slipping. It can be made in any consistency between extreme hardness and softness, and, while always dense, possesses a certain amount of resiliency and does not cause foot-soreness and fatigue.



MASTIC FLOORING AS USED FOR RAILROAD STATION WORK

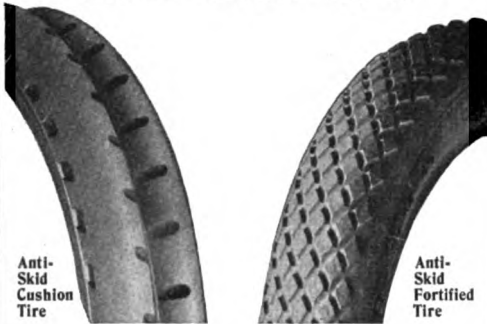
It is also damp-proof. It is easily laid and easily repaired if changes in the floor surface are made necessary at any time. It can be laid over any foundation which is firm and stable, and can be applied over wood, brick, concrete and tile already in place. It is adapted for use in connection with many industries and classes of construction, among which may be especially noted alley paving, court houses, gymnasiums, jails, loading docks, railroad stations and school houses.

✦ ✦

George P. White Promoted

The Buffalo Steam Roller Company, of Buffalo, N. Y., announces the promotion of Mr. George P. White to be manager of its Philadelphia office. Mr. White has been connected with this company for a number of years. With this appointment the location of the Philadelphia office in the Bulletin Building is changed to room 404 on the fourth floor.

492 Cities Favor These Tires



Fire Fighters Depend on Them

Look for the facts—past records—when you buy fire truck tires.

Be sure they will do what you expect them to. Or if you expect trouble from every tire then you don't know Goodyears.

Last year alone 52½ per cent of all new motor-driven fire apparatus in this country was equipped with Goodyear Fire Truck Tires.

You know there must be real reasons when one tire can lead like that.

Commencing 1914 there were 344 City Fire Departments using Goodyear tires. In the one year 148 new cities were added. That means 492 cities favored Goodyears.

The record so far this year will far over-top the past.

Then here is another significant fact. 78 cities in 1914 already using Goodyears, specified Goodyears on new apparatus purchased.

This, we claim, is the best proof we know of that Goodyear tires excel.

We suggest to you, when next in the market for fire truck tires, that you remember the name and reputation of Goodyear.

The two types shown above are the types you soon must come to. The Cushion Tire is built for the heavy apparatus. The Fortified Tire is built for the Chief's car and the lighter apparatus.

Write us for beautifully illustrated free book, "Getting to the Fire." Address Desk 138. (2560)

GOOD YEAR
AKRON, OHIO
Fire Truck Tires

The Goodyear Tire & Rubber Co., Akron, Ohio
Makers of Goodyear Fortified Automobile Tires

Artificial Daytime

As the sunlight fades away, the ornamental lighting systems in hundreds of cities flash on — brightening streets and boulevards — driving away darkness — extending daytime five to eight hours.

CUTTER Standards

have helped to establish artificial daylight in many cities in all climates.

Our posts are built from experience gained through twenty-five years serving the public in cities throughout the country. We have been building the very highest quality of lighting fixtures and giving, always, adequate service.

An Engineering Department has been installed to further assist you in planning for better lighting in your city. We will be glad to give you help gratis.

Write for our new catalog No. 13, showing our latest designs for High Efficiency Mazda Lamps.

Geo. Cutter Co.

413 Notre Dame St.
South Bend, Ind.



For Contractors and Boards of Public Works

Corrosion of Soil Pipe

Everyone interested in metal pipe for any use, as well as those interested in soil pipe, should read from cover to cover the little eight-page booklet on soil pipe just published by the Central Foundry Company, 90 West Street, New York. Within its pages he will find published for the first time an entirely new and novel hypothesis to account for the difference in the resisting power of various kinds of metal pipe to the ravages of corrosion, and this new hypothesis is well worth pondering. The booklet is unusually well illustrated, and concrete examples that can be readily verified by the reader are given to bear out the company's contentions.

✦ ✦

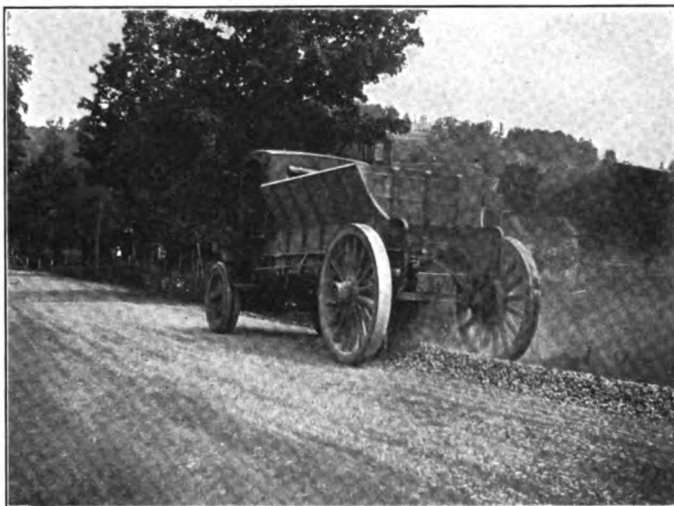
A Street Scraper

A simple and effectual street scraper (the Iron Horse brand) is manufactured by the Rochester Can Company, of Rochester, N. Y. It is made of heavy black iron, braced with $\frac{1}{4}$ -inch wire rod, and has a long hardwood handle. This is said to have given the best of service to all users in the cleaning of streets and stables, and to be very durable. It measures 30 inches in width and 10 inches in depth.

✦ ✦

The Gravity System of Road Oiling

Studebaker, of South Bend, Ind., has published "Catalog No. 1007," which describes and illustrates this company's gravity road oiler. This machine will distribute all kinds of emulsions for laying dust and binding and preserving the surface of roads. It handles cold oils up to and including 40 per cent asphaltic base, and in extremely warm weather oils with as high as 60 per cent. Three distributing pipes, each 6 feet long, divided in the center, give a spread of 6 or 3 feet, as desired. They are perforated in such a way as to insure evenness of distribution. As the outlets work independently, each pipe can be operated separately or in combination with the others, thus giving control of the quantity of oil used and of its spread. Oil leakage is prevented by three positive shut-offs—a valve inside the tank, a plunger in the horizontal cylinder and a shut-off valve at each pipe. This machine can be fitted for operation in three ways: First, by putting a seat at rear so as to enable one man to give his entire attention to the distribution of oil; second, by levers and rods, so as to be controlled by the driver from his seat, and,



WATSON BOTTOM DUMP MOTOR TRUCK FOR ROAD IMPROVEMENT WORK

third, by combining both of the above plans so that either the driver or the driver and the helper can control the operation, as circumstances require.

✦ ✦

A Road Building Bulletin

The Du Pont Powder Company, of Wilmington, Del., realizing the growing need for a bulletin written in a plain, popular style covering the location, building and maintenance of roads, announces the publication of a treatise on this subject for free distribution.

Although the obvious purpose of this publication is to promote the rational use of explosives in road work, the text is much broader in its scope. The introductory chapter consists of a discussion of the need of permanent roads and highways and their relation to civic and economic progress. Recommendations are given for permanent locations and the width and character of road desirable under different conditions. Detailed advice is included regarding the removal of stumps and boulders from the right of way.

A chapter on drainage discusses every phase of the subject from the crowning of the surface to the control of large streams, and contains instructions with regard to cut and fill work in hard ground and in rock, for both straight and side hill cuts. The chapter on road building equipment includes everything from the smallest drag scraper to rock crushers and steam shovels. Special attention is given to the use of different classes of road surfacing material, and advice is given on the construction of earth, shell, sand clay, macadam, brick and concrete roads. This is followed by a chapter on the upkeep of country roads and by a treatise on explosives and their handling and use.



"EXCELSIOR" RUST PROOF

The Fence That Beautifies and Protects

Good taste and good judgment go together in fencing. Among the varied styles of Excelsior Rust Proof fence you will find one just suited to your location—a fence that will not spoil but will enhance the view. Excelsior Rust proof fences will last because they are not the tumble-down kind. The large wires are fastened together with a patent clamp so that they cannot slip. The fence stands erect, without sagging. Best of all, it is *dip galvanized*. The spelter is put on much heavier than on ordinary fences. That's why Excelsior Rust Proof fences have longer life than ordinary fences and are not eaten by rust. Ask your hardware dealer also about Excelsior Rust Proof Tree Guards, Bed Guards, Trellises and Trellis Arches. Write direct for catalog C.

WRIGHT WIRE COMPANY, Worcester, Mass.

Ornamental Lighting Poles

are designed to add beauty to your streets, but they do far more. They help make your town prosperous by attracting business.

This particular design of pole is for the high efficiency Type "C" Mazda Lamp.

Let us tell you more about this pole, or we will show you our other designs.

**ORNAMENTAL
LIGHTING POLE CO.**

Poles for all types of lighting
114 Liberty St., New York



The Coleman Boulevard Lamp

**Makes and Burns its
Own Gas from
Gasoline or Kerosene**

It is made of cast iron, copper and brass. Will not rust out. Stands 12 feet high. Is storm proof and bug proof.

It gives a strong, white light and throws it down on the street and sidewalk where it is wanted and not up among the tree tops.

Giving 1000 candle power, midnight service costs 3 cents per lamp per night. All night service 6 cents per night. In competitive tests we have never failed to show the lowest operating cost of any gasoline or electric light made.

It is lighted and turned on from the ground in less than a minute. It is thoroughly practical and the extra "gas producer" insures against failure. Also made to give 800 candle power.

Write nearest house.

The Coleman Lamp Co.

Wichita, Kansas
Toledo, Ohio
St. Paul, Minn.
Dallas, Tex.



The book is fully illustrated with photographic views and special plan and sectional drawings of roads. It may be obtained free on request by anyone interested in the subject.

✦ ✦

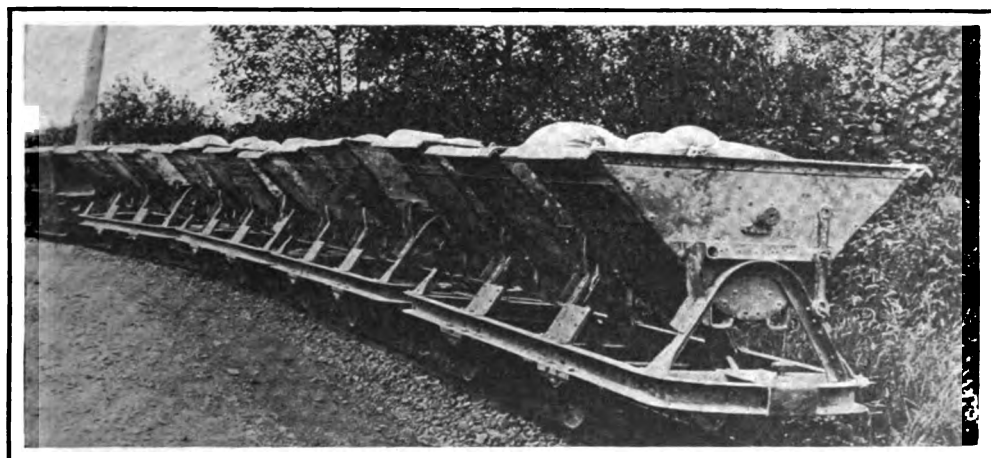
Building Country Roads

Through the united efforts of the Oregon State Highway Commission and good road enthusiasts of the coast state, miles of rural road, including a number of market routes, were improved by paving with cement during 1914, and miles more are contracted for during the coming summer.

In an effort to hold down the expense and at the same time increase the efficiency of the working forces and allow the completion of the work in short time, the Highway Commission

How Water Was Secured for Hopewell, N. J.

In securing a water-supply for the town of Hopewell, N. J., the contractors, Stothoff Brothers, of Flemington, N. J., drilled two wells through the red sandstone to the granite formation underneath, one 261 feet, the other 243 feet deep. In the 260-foot well a flow of 8 gallons per minute at the surface was obtained, but in drilling the other well the same vein was encountered and the water from the first well was lowered. Upon completion of the second well a flow of 35 gallons per minute was obtained, which the town is using. A surface reservoir was built, into which the water flows by gravity and from which it is pumped with a triplex pump



PORTABLE TRAIN OUTFIT USED BY OREGON STATE HIGHWAY COMMISSION

contracted with the Orenstein-Arthur Koppel Company, of Pittsburgh, for the furnishing of portable tracks and trains of "Koppel" V-shaped cars. This equipment is said to have been thoroughly tested during the past six months and to have met with the approval of the Commission members. In view of the large mileage of roads to be improved this year, additional equipment will be put in service. The raw material—concrete, stone and sand—is brought to the working point in trains of cars, sections of the portable track being placed along the road to be improved and leading to the concrete mixing apparatus.

✦ ✦

Pull Me Out

Is the slogan on the insert in a folder just issued by The Pioneer Asphalt Company, of Lawrenceville, Ill., under the caption of "A Big Story Briefly Told," and to him who heeds the slogan that company will send much valuable information about the Pioneer products and many suggestions that will go far toward pulling the road maker out of the difficulties that surround him.

and a gas engine to a reservoir 160 feet higher. A suction line is connected with the well proper, so that in case the natural flow is inadequate water can be pumped from the well itself.

Both of the wells were finished 8 inches in diameter, but were started with a diameter of 10 inches, which was increased to 20 inches in the rock. They were then cased out and cemented between the outside of the casing and the wall of the 10-inch hole with liquid Portland cement, so as to shut out the possibility of surface contamination. By using a pump the 260-foot well could pump 60 gallons, the 243-foot well 100 gallons a minute.

The water is clear and of good quality, and the usual temperature is 52 degrees. It is an unusual circumstance to obtain a gravity supply of water of this amount in this section. No supply was encountered in the work until the point was reached where the change of rock occurred, between the sandstone and the granite.

Municipalities interested in artesian wells or water-supply outfits will find Stothoff Brothers fully experienced along this line.

Your Town's Best Advertisement—

A MORRIS ORNAMENTAL STREET LIGHTING SYSTEM!

If new people—new industries—are to be attracted, it is just as necessary for your town to advertise as it is for the individual merchant or manufacturer.



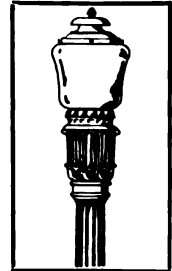
5-Light Tungsten Cluster Standard, Design No. 51345. Made also for 5-lights; one of more than 500 other designs.

No other method of civic advertising will yield so great a return in **CIVIC BETTERMENT**—in **MODERN DEVELOPMENT**, as a wealth of sparkling—twinkling, up-to-date street lights, mounted on **MORRIS ORNAMENTAL CAST IRON STANDARDS**.

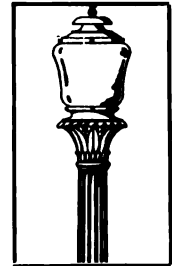
You do credit to your "Main Streets"—to your parks—to your residential sections, by installing **MORRIS STANDARDS**. Their effect is dignified, harmonious, graceful. Made from the best chemically-analyzed pig iron (no scrap) they embody all that is staunch, rust-proof, *everlasting*.

MORRIS STANDARDS are playing a prominent part in the rapid expansion of hundreds of Cities and Towns the country over.

Ask for illustrated booklet—"The Origin and Development of Better Street Lighting—Its Value."



New unit for High Efficiency Nitrogen Lamp—Design No. 3023-1 (Form "C")—500 other designs, one to five lights.



New unit for High Efficiency Nitrogen Lamp—Design No. 3023-1 (Form "D")—500 other designs, one to five lights.

MORRIS
ORNAMENTAL
Cast Iron
LIGHTING
STANDARDS

ELMER P. MORRIS, Sales Agent

136 LIBERTY STREET, NEW YORK

Representing

CENTRAL FOUNDRY COMPANY

Operators and Sole Owners of Foundries at

Aniston, Ala. Holt, Ala. Bessemer, Ala. Medina N. Y.
Newark, N. J. Vincennes, Ind. Baltimore, Md.

THE AMERICAN CITY

MOTT LAMP POSTS



FAMOUS BOARDWALK, ATLANTIC CITY, LIGHTED WITH MOTT LAMP POSTS

WRITE FOR CATALOGUES AND PRICE LISTS
OVER ONE THOUSAND DESIGNS

FOUNTAINS

DISPLAY
FOUNTAINS
FOR
PUBLIC SQUARES
PARKS, ETC.

—
MANHOLE
FRAMES
GRATINGS

—
TREE GUARDS

—
WRITE FOR
CATALOGUES



FOUNTAIN IN BEDFORD AVE., BROOKLYN, N.Y.

DRINKING
FOUNTAINS

WITH
SANITARY
CUPS, ETC.

—
SETTEES

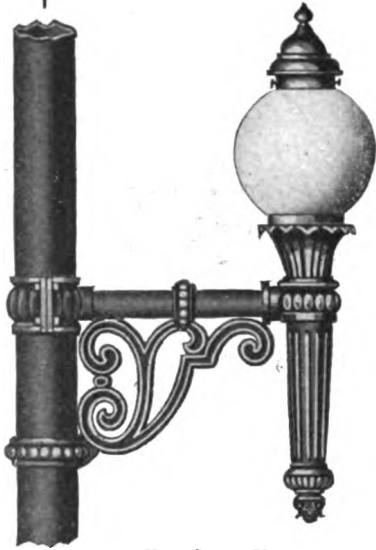
VASES

RAILINGS

STREET
SIGN POSTS

THE J. L. MOTT IRON WORKS

FIFTH AVENUE AND SEVENTEENTH STREET
NEW YORK CITY



Save ½ the Cost of a New White Way

The cost of installing new standards in your city may be prohibitive.

However, your street railway company must have trolley poles on which to hang their wires. Why not, then, get them to co-operate with you in securing

ELRECO Combination Poles

—which will give you a white way as fine as any city at a much lower expense.

Wooden poles are an eyesore. ELRECO poles are an improvement and will last much longer.

Put in the Mazda Type "C" Lamp and you will have brighter business streets at a low maintenance expense.

We have placed ELRECO poles in Pittsburgh, Niagara Falls, Milwaukee and other cities. Let us send you our catalogue "D" showing our complete line.

We Save You
the cost of underground construction.
the cost of extra lamp standards.
the expense of high maintenance costs.

Electric Railway Equipment Co.
New York Office
30 Church Street
Cincinnati, Ohio



A High Candle-Power Single Light

A standard like this offers a very economical method of lighting streets efficiently. The initial cost is low as is also the maintenance cost.

This standard is free from excessive embellishment, thereby heightening the decorative and imposing lamp design.

The old style swinging arc lamp is being rapidly displaced by such designs as these. The first installation in New Haven, Conn. has been followed by Baltimore, Rochester, Cincinnati and other large cities.

Our new catalogue will show you many designs. Write for it today.

**The
Casey-Hedges Co.**
Chattanooga, Tenn.

Conclusive

650 cities have ornamental street lighting.

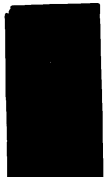
586 of the 650 use

Alba Ornamental Balls

Are you interested in good light for your city?

Let us send you information.

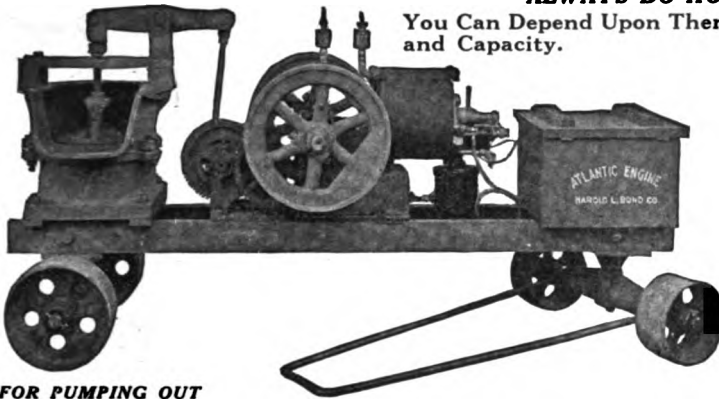
**Macbeth - Evans
Glass Company**
Pittsburgh



ATLANTIC PUMPING ENGINES

ALWAYS DO HONEST WORK

You Can Depend Upon Them for Efficiency, Durability and Capacity.



FOR PUMPING OUT

TRENCHES, EXCAVATIONS, PIER FOUNDATIONS, FILLING WATER CARTS AND TANKS. SPECIAL PUMPS FOR ROAD CONTRACTORS

Telegraph or write for net prices and illustrated catalog

HAROLD L. BOND COMPANY

**383 W ATLANTIC AVENUE
BOSTON, MASS.**

Manufacturers of—

Ross Concrete Spade, Andrews' Concrete Tamper, Safety Trench Braces, Felten's Sewer and Concrete Rods, Pearl Brand Suction Hose.

Diaphragm Trench Pumps

List Price

3-inch, Single Pump	
(see cut) - - - -	\$165
4-inch, Single Pump - -	\$150
3-inch, Double Pump - -	\$220
4-inch, Double Pump - -	\$250

Diaphragm Cesspool Pump

3-inch, Single Pump - -	\$180
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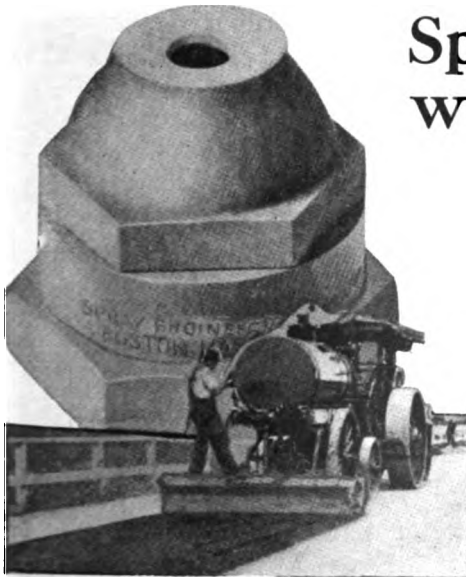
Diaphragm Double-Acting Pump

5000 to 8000 gallons -	\$300
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Centrifugal Pump

Pumps 200 gallons per minute - -	\$300
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Spray Nozzles work with a "will"



Spray Nozzles cost the stones evenly on all sides

They take great care to please you. They always spray with the same evenness, no matter what quality oil or bituminous binder is used—light, medium or heavy.

Spray Nozzles never make you grouchy or cause you to lose your temper by clogging with oil, delaying the job and thus increasing expenses.

Why not say good-bye to the troubles you now have with nozzles which clog? Here are nozzles which you can place on your sprinkling and spraying machines so that spraying is made an economical method instead of a costly experiment.

Write to us for our booklet.

Engineers for Spray Cooling
Ponds, Irrigation Systems,
Aerating Reservoirs, Odor
Condensers, Gas Washers

SPRAY ENGINEERING CO.
Engineers—Manufacturers
91 Federal St. Boston, Mass.

Manufacturers of Air Wash-
ers, Spray Nozzles, Aerating
Nozzles, Asphalt Nozzles,
Park Sprinklers



Connecticut State H'ghway near Middletown

No Dust in Summer Means No Mud in Winter

The dusty summer road becomes sticky and muddy in winter. Cure one and you cure both. Use the road binder that maintains an even surface, free from dust and raveling.

SOLVAY Granulated Calcium Chloride

works right into the road and keeps it smooth, hard and dustless. Applied by hand or machine. More economical than any other treatment — even sprinkling.

Interesting Solvay Road Book sent on request. Excellent opportunity for local agents. Write to-day!

SEMET-SOLVAY COMPANY

410 Milton Avenue

SOLVAY, N. Y.



A City Official writing us recently says among other things: "Your 'Genuine Open Hearth Iron' Culverts

are certainly well adapted to city use as they can be laid nearer the surface of our streets than other types of culvert and are much easier installed than the pipes that come in short sections."

A Pure Iron-Copper Alloy Sheet with a heavy spelter coat makes an ideal material for culvert construction. And that's what our culverts are made of.

They are practically permanent. Let us send you our booklet and prices.

The **NEWPORT CULVERT CO. INC.**
NEWPORT, KY.

Toy's All Steel Lawn Chairs and Settees

DESIGNED ESPECIALLY for public parks and play grounds where a COMFORTABLE and ATTRACTIVE seat is desired that will stand hard usage. Made of the very best channel and flat steel, strongly braced and riveted, and is practically indestructible.

This is our very latest design, all sharp corners and angles being eliminated, and is built with a high, comfortable back to conform to the natural position of the body while in a sitting position. Each chair is nicely finished in dark green, lending itself to the attractiveness of the park or grounds.

Sold under our positive guarantee.

For further information and prices address

W. M. TOY & CO., Sidney, Ohio



No. 3, Our Most Popular Settee. Length Sufficient for Three People



Buckeye Broadcast Fertilizer Sowers

Absolutely Guaranteed to Sow

Granulated Calcium Chloride

Ground Sheep Manure, Lime and all brands of Commercial Fertilizers. Send for Prices and Catalogue.

The American Seeding-Machine Co., Inc., Springfield, O.

FLY CAMPAIGNS.

Lantern Slides and Exhibits For Sale and to Rent. Also Slides on Mosquitoes, Clean-Up Week and other subjects. List of slides for 2 cents in Stamps.

EDUCATIONAL EXHIBITION CO.

P. O. Box 331

Providence, R. I.

How May Living Costs be Lowered?

THE LATEST BOOK ON THIS PROBLEM
OF PROBLEMS IN AMERICA AND THE
ONLY ONE CONSTRUCTIVE IN TREATMENT

Lower Living Costs in Cities

(National Municipal League Series. Edited by CLINTON ROGERS WOODRUFF)

By CLYDE LYNDON KING, Ph.D.

A PLAN

To Give City-Dwellers a Maximum of Health, Recreation and Wages at a Minimum of Expenditure and to Eliminate the Needless Costs Which Retard Urban Efficiency in the Twentieth Century City

In this day of the establishment of open markets in New York City and agitation for coöperative purchasing and distribution, a volume on living costs, purchasing and distribution is one of timely interest to the domestic as well as the municipal housekeeper. Dr. King has written several books and articles on municipal welfare. In this, his latest book, he discusses the twentieth century city and the possibility of lower living costs in cities and offers a constructive program for urban efficiency which has been sufficiently tested in practice to prove its adaptability. His book is a study of the forces now actively at work to make American cities efficient democracies and to give to their residents ample opportunities for maximum returns in pleasure, health, recreation, and wages at a minimum of expenditure. Analyses of the urban dweller's costs for food, health, recreation, education, municipal utilities and governmental service present a compelling array of facts out of which Dr. King has evolved a program which will go far towards solving the most vital American problem of the day—living costs.

Other Volumes in The National Municipal League Series

City Government by Commission

Edited by Clinton Rogers Woodruff

The Initiative, Referendum and Recall

Edited by William Bennett Munro

The Regulation of Municipal Utilities

Edited by Clyde Lyndon King

The Social Center

Edited by Edward J. Ward

Woman's Work in Municipalities

By Mary Ritter Beard

The City Manager

By Harry Aubrey Toulmin

Each Volume 12mo. Cloth, \$1.50 net. By mail \$1.64

D. APPLETON AND COMPANY, 35 West 32d Street, New York



Music for the Playground

the best results come from *orderly* play and exercise. A Grafonola in the playground makes play pay. It attracts children and holds them.

200 Schools in New York City use

Columbia Grafonolas

daily in school room and playground.

You can test their efficiency in your school—we will send free a Columbia School Outfit together with records allowing a trial. You can then know for yourself the inspirational, disciplinary and teaching possibilities of Columbia Grafonolas.

Address: Educational Dept.

COLUMBIA

**Graphophone
Company**
Woolworth Bldg.
NEW YORK

TORONTO
363 Spadina Avenue
Prices in Canada plus duty



Creators of the talking
machine industry.
Pioneers and leaders
in the talking
machine art.
Owners of the
fundamental
patents.

CUT AND SEND US THIS COUPON TODAY
COLUMBIA GRAPHOPHONE COMPANY
Box 1100 Woolworth Bldg., N.Y. City
Please send me copy of Booklets "School Room
Music," and "500 Educational Records."
Name _____
Place _____
State _____

**You Can Secure Better Roads
At Lower Cost by Specifying**

ATLANTIC Asphalt Products

Bituminous macadam or bituminous concrete roads are lasting and economical. They furnish a smooth, waterproof, dustless surface. Their maintenance is reduced to a minimum.

If you are considering building new roads, resurfacing or repairing them, write for full information concerning Atlantic Asphalt Products

Atlantic Asphalt is scientifically refined from high-grade Mexican Crude and contains the highest percentage of bitumen. It is uniform in grade and entirely free from soluble salts, therefore permanently waterproof.

An important feature is the high cementive value of Atlantic Asphalt and possessing the qualities of cohesiveness and ductility in the degree required of asphalt make it the ideal material for road construction.

Atlantic Asphalt Products meet every road requirement. They are as follows:

Atlantic Paving Asphalt (For Hot Mixing Method)	Atlantic Penetration Asphalt (For Penetration Method)
---	---

Atlantic N. C. B. Asphalt (For Surface Treatment— Applied Cold)	Atlantic Asphalt Road Oil (A good investment as a dust layer, a waterproof covering for the road surface and as a road preserver)
--	---

Delivered in Tank-cars, Drums or Barrels. Prompt shipments are assured.

Our Engineering Staff is always ready to make specific recommendations regarding your road problems. Your correspondence is solicited

THE ATLANTIC REFINING COMPANY

Philadelphia

*Sustaining members of the
American Highway Association*

Pittsburgh



**A beautiful
street but—**

Look at the Weeds

Weeds always grow where they are not wanted. They seem to enjoy making a beautiful scene look unsightly.

They certainly do not increase civic pride.

But do not be discouraged because weeds grow. They can be killed so they will never grow again.

Weeding by hand is expensive but killing them by the

Atlas "A" Method

is scientific, economical, quick and permanent.

One application of Atlas "A" Weed Killer this year will stop all growth for this season. Next year a 50% less application will make your streets, park walks, etc., permanently free from weeds.

Make your streets presentable to strangers. Don't neglect the things that make for beauty. Civic clubs, boards of trade, etc., put these facts before your citizens. Clear away the weeds as you would rubbish—both are unsightly. Consult us for advice. Write for our booklets.

Please
send us
data on How
to Eliminate
Weeds by the
Atlas "A" Method.

**Use this
Coupon
—today**

Name

Position

Address

Date

Atlas Preservative Co.
of America
95 Liberty Street, New York

Down in Panama

There have been erected in a number of towns at the Canal Zone, 619 FORAN Ornamental Cast Iron Posts of the type used for the street and park lighting in Washington, D.C., which were originally designed by the late Frank Millett, member of the Fine Arts Commission.

Foran Standards

were selected to be placed down on the streets of the Canal Zone cities because the condition in climate demanded well-built posts.

FORAN Posts are built with three, four and five light fixtures—in fact we build them to suit your city's need.

Let us submit plans of standards. Let us give you advice on the

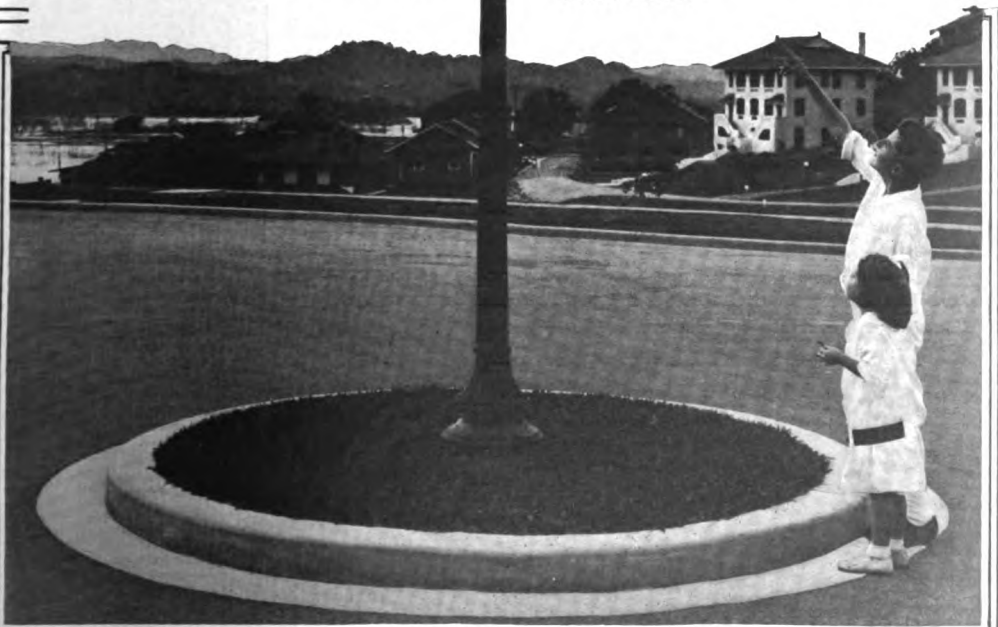
right kind of street lighting. Write us for information.

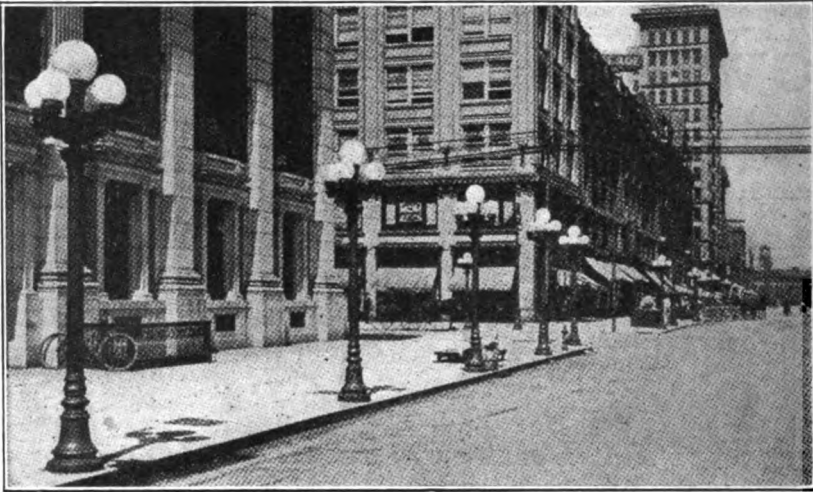
We also manufacture water-pipe specials, flanged pipe, stable fittings, sewer work and general castings.

Foran Foundry and Manufacturing Co.

FLEMINGTON, N. J.

*Type of standard used at
Panama Canal—*





Mr. Municipal Engineer: ORANGEBURG FIBRE CONDUIT

is very widely used for ornamental street lighting systems. Here is DAYTON, OHIO, where it is in service. Typical of many progressive cities. Is yours in line? To the point data in book "DS."

NEW YORK
BOSTON

THE FIBRE CONDUIT COMPANY

ORANGEBURG, N. Y.

CHICAGO
SAN FRANCISCO

Your City Needs Traffic Signs

but not the ordinary kind. You need something which will not crack or break, signs which will last for 100 years if necessary. Then

Indestructible Signs

PATENTED

"The Signs that outlive Father Time"

will be just the thing.

These signs are made from "Armco" Iron which is rust-resisting. The letters are drilled into this material so they can never be erased—practically last forever.

Write for our booklet and prices.

The Indestructible Sign Co.

530 Dennison Ave., Columbus, O.

Write to our nearest Selling Agent:

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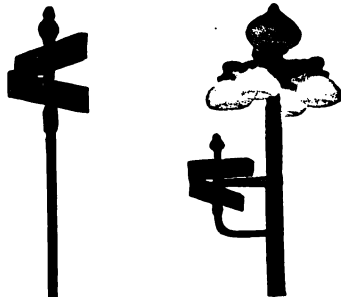
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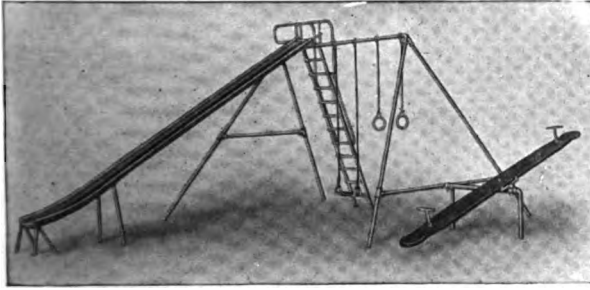
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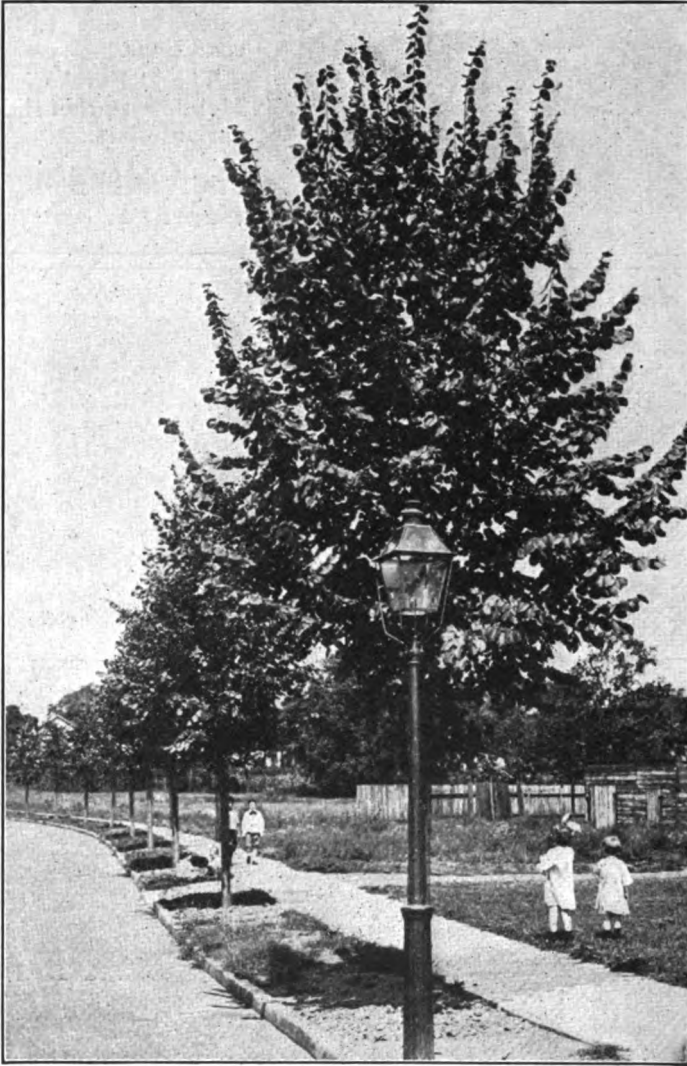
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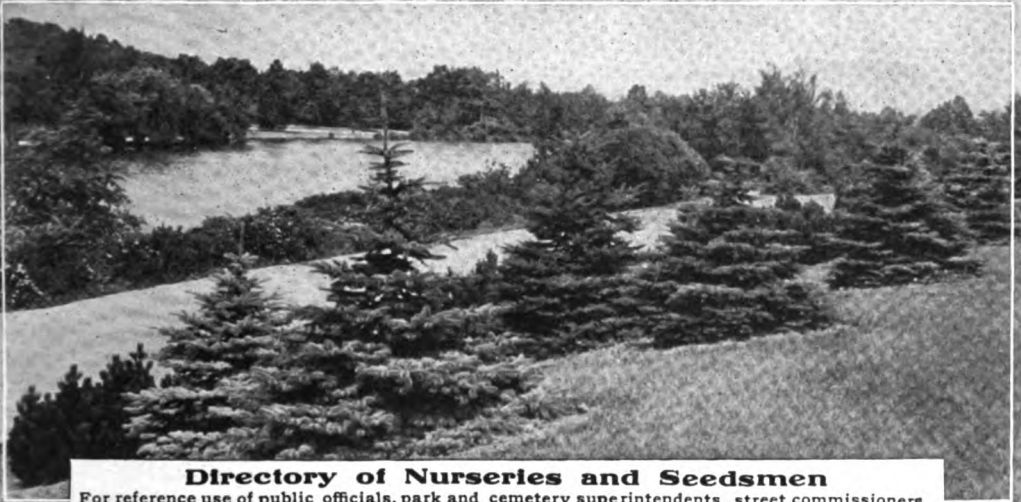
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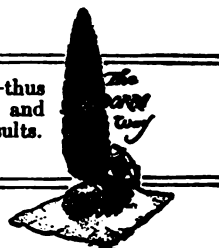
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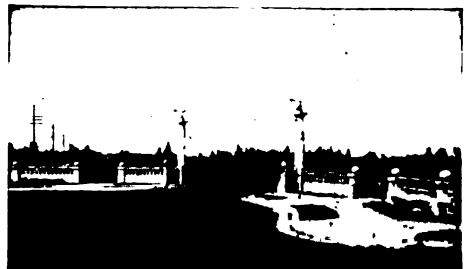
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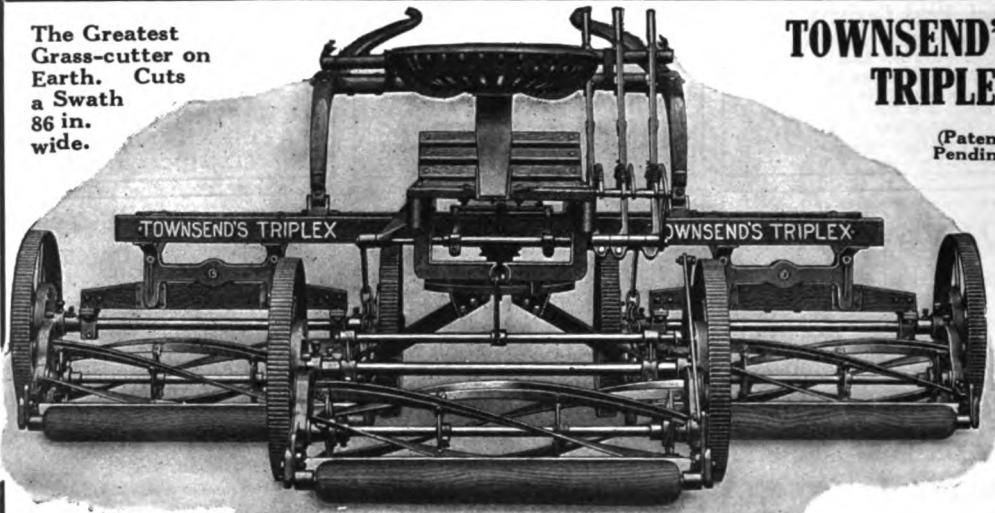
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A Membership Income of \$100,000

A record for the United States has been established by a campaign which the AMERICAN CITY Bureau has just completed at Toledo, Ohio.

Two months ago the Toledo Commerce Club had a membership of 1,450 at \$20 dues, supplemented by some special funds for special services. To-day its membership has been raised to approximately 4,000 with \$25 dues—a yearly income of \$100,000.

This is the largest organization in the United States—and doubtless in the world—for a city of the size or anywhere near the size of Toledo.

The movement for increasing the income and efficiency of its leading commercial-civic organization secured the support of the biggest, most successful men Toledo held. Following are the names of a few of the larger subscribers:

Willys-Overland Co.	140	memberships	\$3,500	per annum
The Owens Bottle Machine Co.	80	"	2,000	" "
Toledo Railways & Light Co.	50	"	1,250	" "
Secor Hotel	40	"	1,000	" "
First National Bank	40	"	1,000	" "
Second National Bank	40	"	1,000	" "
National Bank of Commerce	40	"	1,000	" "
La Salle & Koch	40	"	1,000	" "
Boody House	25	"	625	" "
Tiedtke House	20	"	500	" "
William Hardee	20	"	500	" "
The E. V. Close Co.	20	"	500	" "

This quotation from a recent letter by W. A. Gosline, Jr., President of the Toledo Commerce Club shows what the men of Toledo think of the work of THE AMERICAN CITY BUREAU:

"Some of our Trustees, when the proposition was being considered, thought we could carry on a membership campaign, and inasmuch as we would be called upon to perform most of the work, they thought it unwise to spend the money. However, the Trustees with that view were considerably in the minority, and better counsel prevailed.

"We are well pleased with the work of THE AMERICAN CITY BUREAU. The report and recommendations they made are worth the money the campaign cost. The big results of the campaign are to follow in the greater interest in the community, greater interest in the club's activities and a better understanding of the responsibilities of citizenship."

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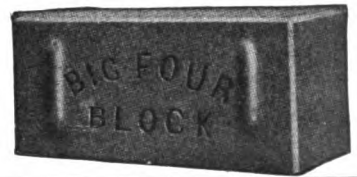
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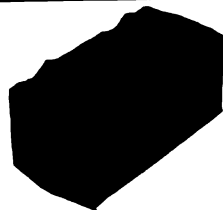
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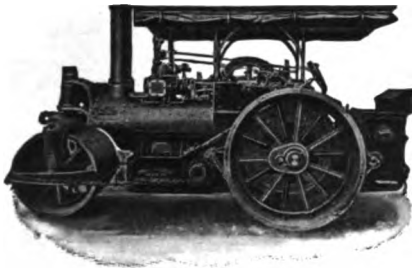
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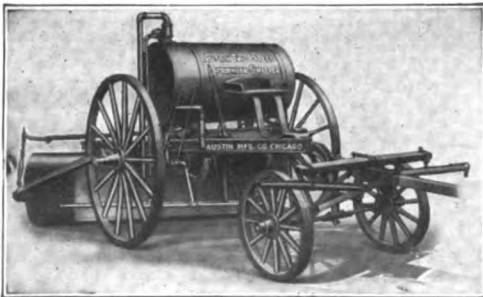
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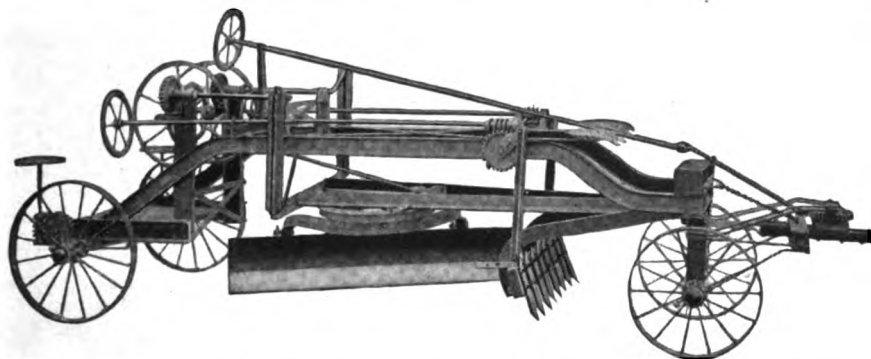


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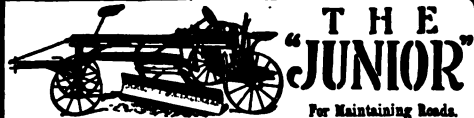
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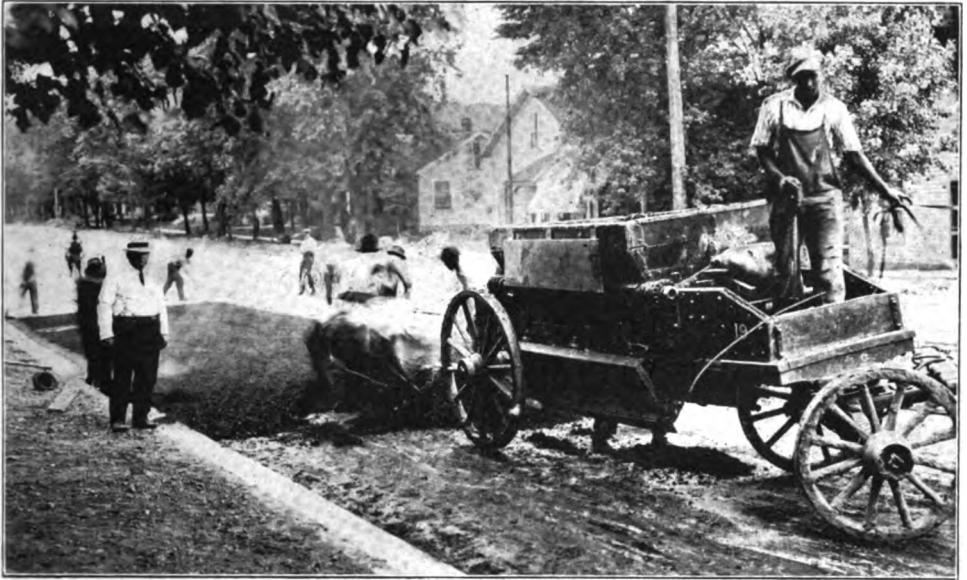
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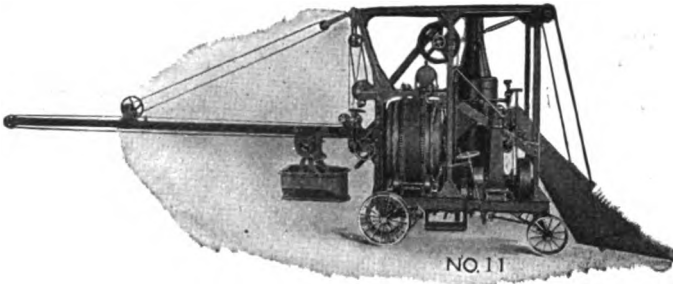
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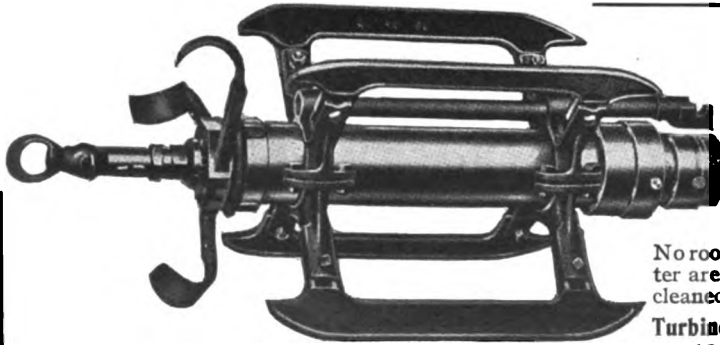
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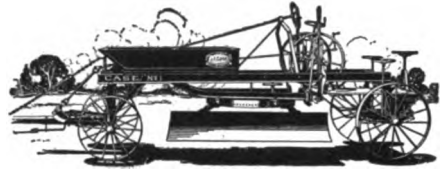
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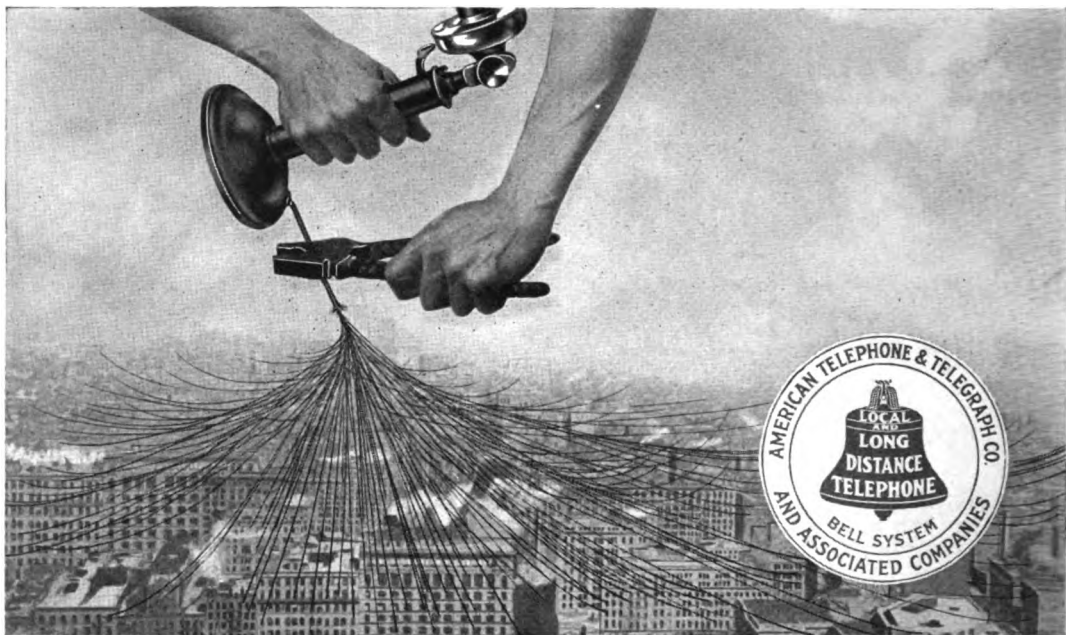
We also make Galion Ideal Pipe in the regular full round style, in sizes from 8" to 72" diameter.

When greatest economy and service at lowest cost are considered, Galion Ideal Cast Iron Pipe is unexcelled.

Write for complete information and quotations.

The GALION IRON WORKS & MFG. CO. 111 E. Main St.
Galion, Ohio





If a Giant Cut the Wires

Suppose all telephones were silent, and that for forty-eight hours you could not even call a telephone exchange anywhere in the Bell System to ask what the trouble was!

Imagine the confusion which would prevail—with personal visits and messengers substituted for direct, instant communication; with sidewalks, street cars and elevators jammed; with every old-fashioned means of communication pressed into service and all of them combined unable to carry the load.

The instant contact of merchant with customer, of physician with patient, of friend with friend, would be severed; the business man and the housewife would lose the minutes and hours the telephone saves them. The economic loss would be incalculable.

There would not be time enough to do the things we are accustomed to do, and social as well as business life would be paralyzed.

Such a condition is almost inconceivable. The Bell System has developed telephone service to the highest degree of usefulness and made it so reliable that its availability is never questioned. It has connected cities, towns and the remotest places from coast to coast, and has taught the people the advantages of nation-wide telephone facilities.

Plans are made, buildings built and businesses run with Bell Service taken for granted, and yet we have to imagine what it would mean to be entirely without telephones before the great value of this ever-present service can really be appreciated.

**AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES**

One Policy

One System

Universal Service

CAREY

Elastite

NAME REG. U.S. Patent Office.

EXPANSION JOINT

"THE SANDWICH JOINT"

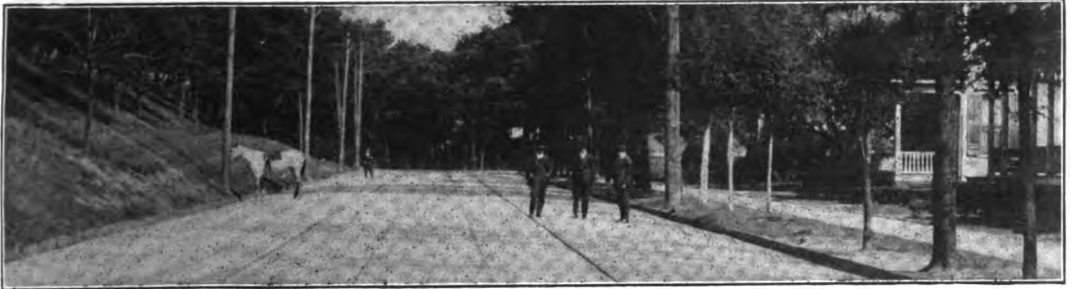
The beautiful street shown below is in Macon, Ga. It is constructed of concrete and Elastite Expansion Joint was used throughout. This is just one of the many streets now equipped with Elastite.

Used also in brick, wood block and granite block streets, cement sidewalks and all forms of construction work requiring expansion joints. Special sections to meet any condition made on request.

"REMEMBER, WE ARE THE PIONEERS"

THE PHILIP CAREY COMPANY

WAYNE AVENUE
LOCKLAND, CINCINNATI, OHIO



THE IDEAL HOTEL OF BUFFALO, N.Y.

Modern **HOTEL LENOX** Fireproof

North Street at Delaware Avenue



A unique Hotel, with a beautiful location, insuring quiet and cleanliness

Convenient to all points of interest—popular with visitors to Niagara Falls and Resorts in the vicinity—cuisine and service unexcelled by the leading hotels of the larger cities.

Conducted on the European Plan, with the following rates:
Room with Privilege of Bath, \$1.50 Per Day Up.
Room with Private Bath, \$2.00 Per Day and Upward.
Two Rooms with Private Bath, \$4.00 Per Day and Upward.
Special Weekly Rates.

Take Elmwood Ave. Car to North St., or Write for Special Taxicab Arrangement. Motorists should follow Main St. or Delaware Ave. to North St. May we send with our compliments a "Guide of Buffalo and Niagara Falls"

On the EMPIRE TOURS. Booklet with maps and running directions will be mailed free on request.

C. A. MINER, MANAGER

SOME USES FOR

DU PONT EXPLOSIVES

FOR ROAD BUILDING

Blasting for Crushers, Loosening Gravel
Banks for Steam and Hand Shovels,
Removing Stumps and Boulders,
Shattering Culverts, Making
Tree Holes, Digging Ditches

AND ANY KIND OF WORK WHERE
POWERFUL ACTION IS REQUIRED

In our century of experience as powder makers, we have gained a knowledge of explosives and their uses which is responsible for the superiority of Du Pont Brands.

Specify DU PONT EXPLOSIVES and insist that your blasters use them. Tell us the nature of the work, and we will tell you which grade to use and how.

DU PONT POWDER CO.

Est. 1802

Wilmington, Delaware



**733 feet
of curb—**

One Day's Work

Sprinkle & Frost, Contractors, Portland, Ind., on June 10th wrote us:

"We have used your steel forms during the month of May and are highly pleased with them.

It rained 21 days in May and in spite of that, we put in 11,000 feet of curb 24" deep, 10' on the bottom and 6" on top. In 15 days we put in 11,000 feet or 733 feet per day.

The steel forms easily paid for themselves on the first month's work."

Let us send you our booklet, "The Hotchkiss System," and more letters to prove what Hotchkiss Forms can do.

Hotchkiss Lock Metal Form Co.

Dept. A. C.

BINGHAMTON, N. Y.

**FOR
RESIDENTIAL SECTIONS
SPECIFY**

TASSCOIL

The Perfect Dust Layer

**STAINLESS
ODORLESS**

Write for Handsome Booklet

THE ALDEN SPEARE'S SONS CO.

CAMBRIDGE "C," BOSTON, MASS.

Own a Stone Crusher Yourself

Be independent of railroad and quarry companies for crushed stone supply. Your road work may be too important to be held up on account of some delay. Be prepared. Have a stone crusher all your own.



The Reliance Portable Crusher

reduces the cost of material—saves delays—cuts down the cost of getting material on the job—does as good work as a stationary crushing outfit.

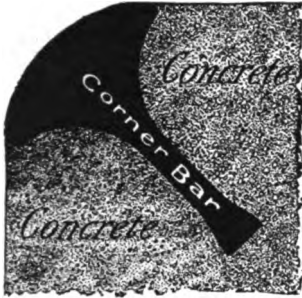
The entire Reliance line of road equipment has been proven time and again to be superior in workmanship and material. *Write for our catalogue.*

Universal Road Machinery Co. Kingston, N. Y.

Branch Offices: Boston, Rochester, Harrisburg. Agencies in 14 principal cities.

Specify Wainwright Galvanized Steel Corner Bar

Once laid—it is there to stay the life of the concrete.



"WAINWRIGHT PATENTS"

March 9, 1907 November 23, 1896 May 5, 1903
March 26, 1907 August 29, 1907 August 2, 1910

It will never be broken by heavy obstacles. The Wainwright Bar is made with a solid rounded head and dovetail anchored its entire length—not merely at intervals. Frost cannot dislodge it.

Over 8,000,000 Feet in Use To-day

This fact proves that WAINWRIGHT is giving the satisfaction that every city and contractor demands.

You must have your concrete curb protected from chipping. Insure permanent protection and use the WAINWRIGHT STEEL CORNER BAR. Always specify it so as to be sure of getting the best.

Write for booklet No. 1.

Steel Protected Concrete Co.

Real Estate Trust Bldg.
Philadelphia, Pa.

**Wastes on Repair
Jobs—Saved**

"TARCO"

Combination
Heating
Kettle and
Pouring Pot



The TARCO Combination holds 10 gallons. It's small but just right for a small job.

This combination can be used practically on any small job and is suitable for heating and pouring all kinds of bituminous road preparations. It takes less men, less time and less money to operate.

Let us send you information about how it is built. Write now.

THE TARRANT MFG. CO.
12 Maple Ave. Saratoga Springs, N.Y.

**It Costs
Less**



to sweep streets by the new sanitary method. Three times the number of streets can be cleaned at less expense by the

**Baker Dustless
Pick-up Sweeper**

than by the broom brigade method.

And, instead of blowing up dirt into the eyes and noses of your citizens, the Baker Sweeper wets the dirt on the streets, then picks it up and carries it away.

Write for letters of approval by cities using the Baker Sweeper. Actual performance talks.

The Baker Mfg. Co.

503 Standford Avenue
SPRINGFIELD, ILL.
Or Baker-Barron, Inc.
225 West Broadway
New York



SWEEPING STREETS WITHOUT DUST

—as protection for the
CONTRACTOR
during the five year period

—as protection for the
COMMUNITY
after the five year period

TRINIDAD LAKE ASPHALT

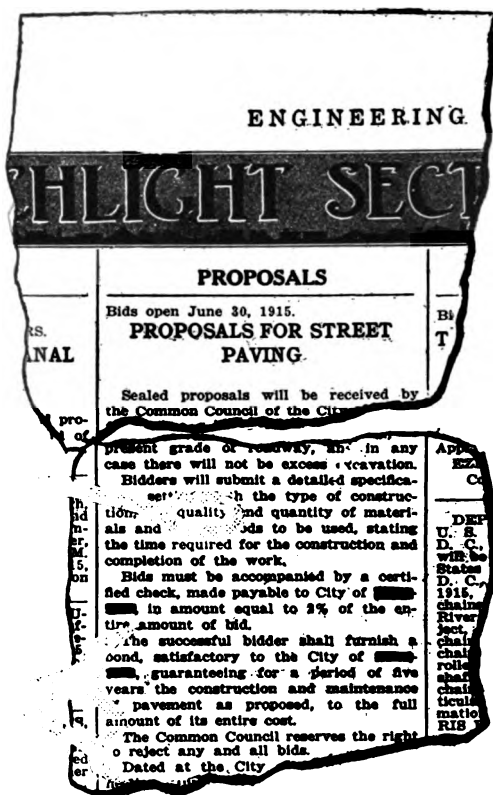
You know from experience that frequently pavements do not outlast even the guarantee period.

The booklet "Evidence" contains records from cities where TRINIDAD pavements have given good service for 20 years or more.

Read it before you decide on the next paving contract.

The Barber Asphalt Paving Co.

Philadelphia, Pa.



**On New Work—on Repair Work
Streets, Sidewalks, Curbs, Sewers, Buildings
Municipal, State or Private Work**

A Concrete Mixer Will Save Time, Labor, and Produce Better Concrete



**You will buy a
Concrete Mixer
Then buy a
Jaeger
“Big-an-Little”**

**and obtain the
greatest value in a
Concrete Mixer
that is possible
to obtain**

**You know mixing stability
rests on QUALITY—no bet-
ter materials can be pro-
cured—no better design of
outfit can be made—no
better results can be ob-
tained than with a “Big-
an-Little.”**

**LEADERSHIP our principle. SATISFIED CUSTOMERS our motto
Once a “Big-an-Little” user always one
Get full particulars Now**

The Jaeger Machine Co.

215 W. Rich Street

Columbus, Ohio

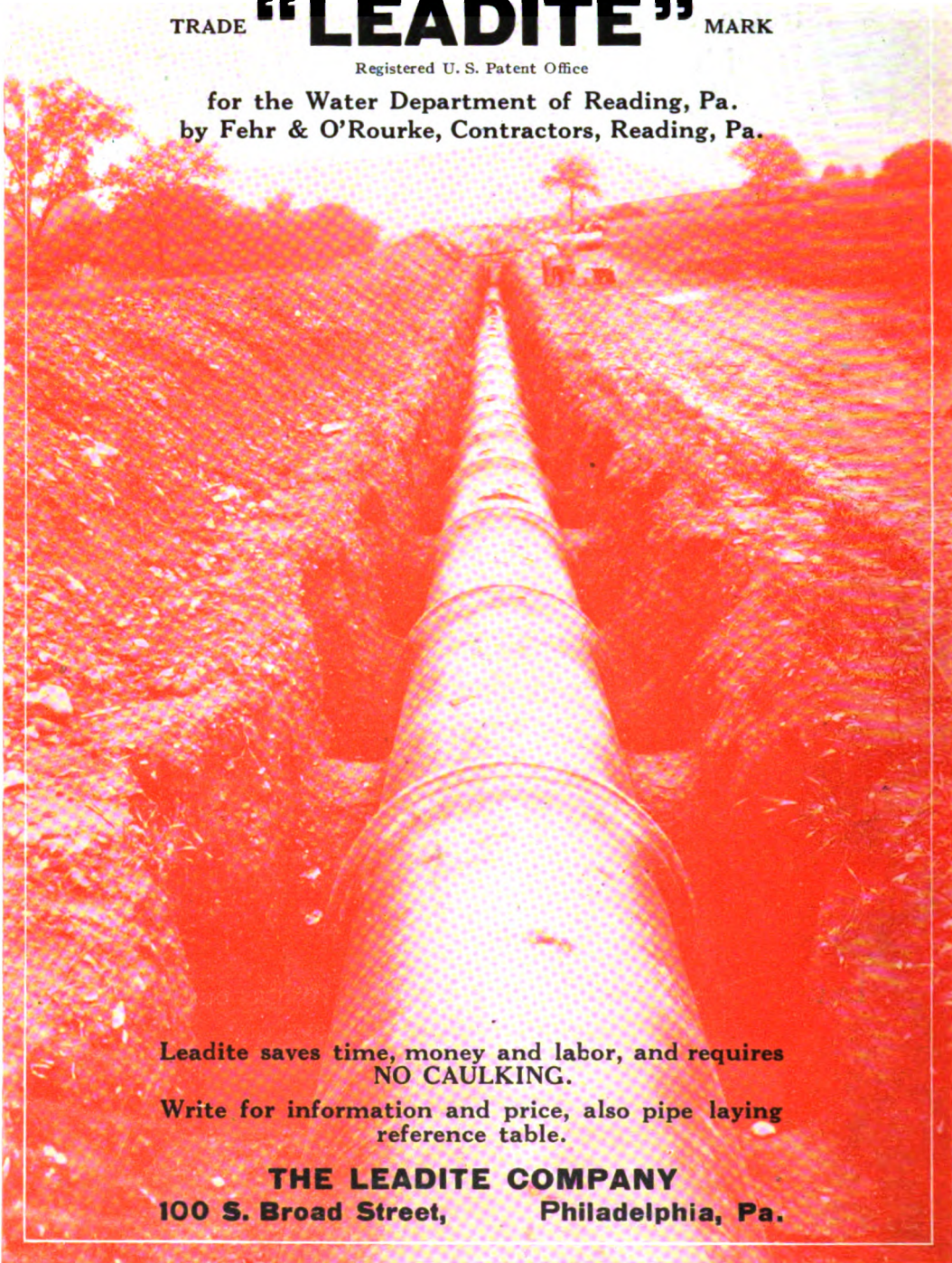
THE AMERICAN CITY

36-INCH LINE LAID WITH

TRADE **"LEADITE"** MARK

Registered U. S. Patent Office

for the Water Department of Reading, Pa.
by Fehr & O'Rourke, Contractors, Reading, Pa.



Leadite saves time, money and labor, and requires
NO CAULKING.

Write for information and price, also pipe laying
reference table.

THE LEADITE COMPANY
100 S. Broad Street, Philadelphia, Pa.

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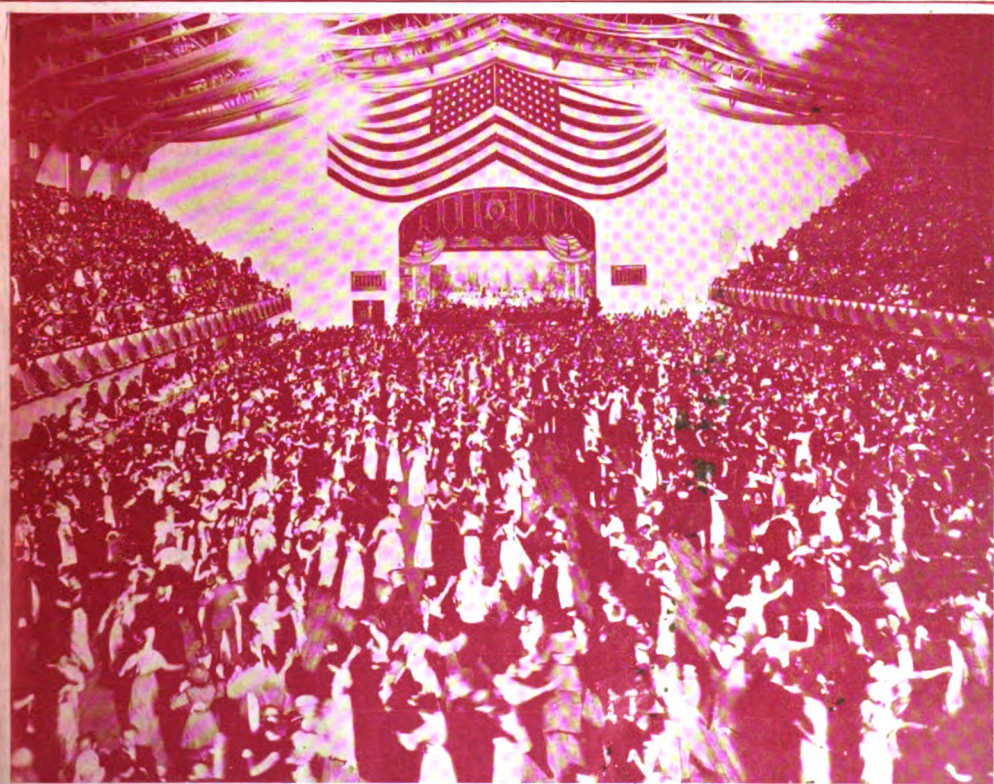
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September, 1915
25 Cents \$2.00 a Year

Publication Office
87 Nassau St., New York

The American City

A Monthly Review of Municipal Problems and Civic Betterment



A CITY'S PROVISION FOR THE INDOOR RECREATION OF HER PEOPLE

The new million-dollar municipal auditorium in Oakland, Cal., on the opening night, when more than 10,000 persons attended the "Ball of a Thousand Colors." This building is the meeting place for many important conventions held in Oakland this summer.

SWINEHART

Cellular Tires

Give Confidence to the Driver

When the pavements are slippery, the motor fire apparatus driver needs to feel sure of his grip on the road. If he fears the moment when the wheels will skid, he is likely to be nervous from lack of confidence.

When he rides on Swinehart Cellular Cushion Tires, he has the best possible assurance of safety.

For, he knows that as the wheels whirl round—no matter how fast—the radial holes in the tires form a gripping suction on the wet streets so they can't skid.

The tires protect him. They increase his efficiency.

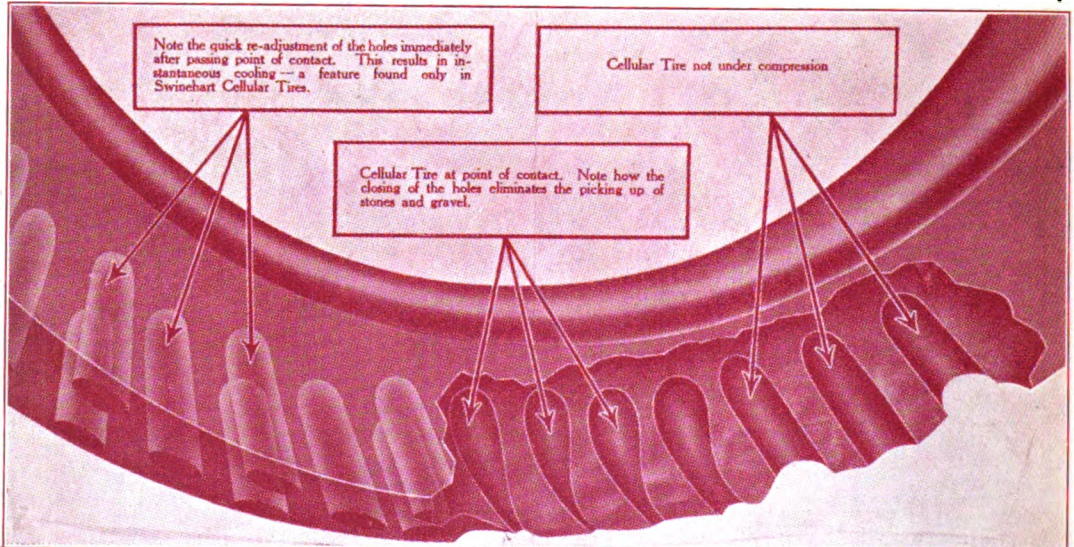
Whether you use heavy motor truck tires or pneumatics, the Swinehart printed matter has an **interesting message** for you because Swinehart makes the best of both. Let us send you this message. All we need is your address.



**Anti-Skid, Non-Heating
Semi-Pneumatic
Punctureless**

Swinehart Tire & Rubber Co.

Akron, Ohio



THE AMERICAN CITY



We define "**Service**" broadly as an intelligent effort to anticipate needs of customers and to meet those needs with the maximum of promptness and efficiency.

Our facilities for such service are exceptional. Large pipe and special foundries, favorably located in the East, South, and West, afford ample capacity, and with the adequate stocks carried, insure prompt shipments of either large or small orders. Rigid inspection and testing guarantee a high quality of product. An efficient organization is prepared to study your problems, and correspondence on special subjects is invited.

We make

"U. S. CAST IRON PIPE"

in all types and sizes from 2-inch to 84-inch—also Fittings and Miscellaneous Castings of all descriptions.

Bear us in mind for your next rush job.

THE PIPE QUICK SERVICE

U.S. CAST IRON PIPE AND FOUNDRY CO.

General Offices: BURLINGTON, NEW JERSEY

SALES OFFICES:

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New York—71 Broadway

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Chicago—122 So. Michigan Boulevard

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St. Louis—Security Building

Kansas City, Mo.—R. A. Long Building

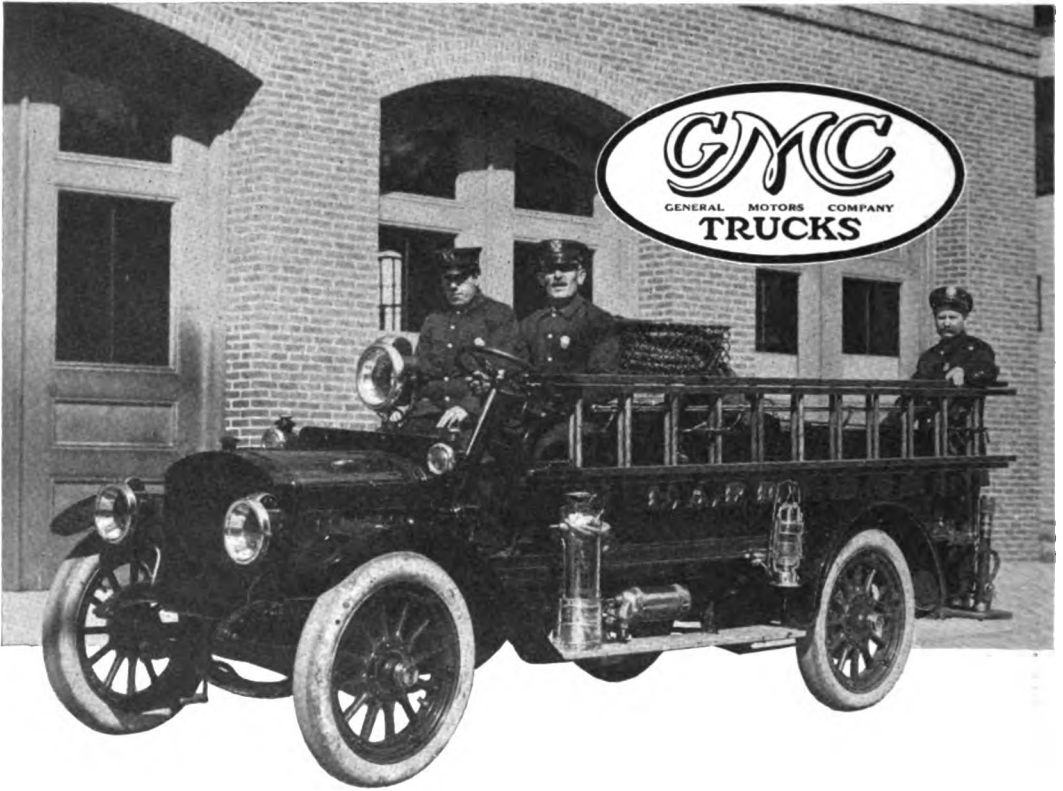
Chattanooga—James Building

San Francisco—Monadnock Building

For quotations or estimates, apply to nearest sales office

For literature or special information, apply to Publicity Department, Desk 3, Burlington, New Jersey

When writing to Advertisers please mention THE AMERICAN CITY.



IT'S the chassis that counts when the fire alarm is sounded—the vehicle that will carry the fire-fighting apparatus to the scene quickly and safely. GMC trucks have a record for reliable service in all parts of the world.

***Simple Constuction
Highest Quality of Material
Trouble-free Equipment***

We furnish machine complete, ready for the run, or will furnish chassis only. Prices astonishingly low for high-grade guaranteed equipment.

Ask us for detail specifications and compare them with others.

GENERAL MOTORS TRUCK COMPANY

One of the Units of General Motors Company

PONTIAC,

MICHIGAN

Branches: Boston New York Philadelphia Chicago St. Louis Kansas City

(23)

HAROLD S. BUTTERHEIM, Editor

M. V. FULLER, Associate Editor

THE AMERICAN CITY

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In the City of Brotherly Love

98 YEARS OF SERVICE FAILS TO DAMAGE WATER MAINS

**Cast Iron Pipe, Brought From England, Re-
moved in Transit Work**

Cast iron water pipe, imported from England 100 years ago and laid in Chestnut and Locust streets as "an experiment," in substitution for wooden ones, upon being taken up by the Water Bureau as too small for present-day service, was said yesterday by Chief Davis to show no deterioration.

The pipe, he said, appears to be just as good as when it was laid, 98 years ago, even after all that time of active service. The interior of the pipe, he said, is roughened and somewhat filled with incrustations and tubercles, but the metal is as sound and free from rust as when it was cast. One section, six inches in diameter, which was laid in 1827, was removed from Locust street to make way for the relocation of sewers in connection with the subway rapid transit work, while another, 4½ inches in diameter, is being removed from the bed of Chestnut street, between Broad and 15th, which has been in active service for 98 years.

From the PHILADELPHIA PUBLIC LEDGER, June 9, 1915

You don't "experiment" these days when you use Cast Iron Pipe.

The following makers of Cast Iron Pipe and Fittings are independent of each other and competitors; inquiries may be sent to any or all of them with assurance of prompt and full response:

U. S. Cast Iron Pipe & Foundry Co.
Philadelphia, Pa.

James B. Clow & Sons
Chicago, Ill.

Donaldson Iron Co.
Emaus, Lehigh Co., Pa.

Lynchburg Foundry Co.
Lynchburg, Va.

American Cast Iron Pipe Co.
Birmingham, Ala.

Glamorgan Pipe & Foundry Co.
Lynchburg, Va.

Masillon Iron & Steel Co.
Masillon, Ohio



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& MFG. CO.**
Dock Builders and
Contractors' Supplies
PLAIN AND GALVANIZED

ORNAMENTAL LIGHTING STANDARDS
Manhole Heads, Catch Basins, Manhole
Steps, and gray iron castings of every description

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and Pattern Works:
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New York Office:
120 Liberty Street,
NEW YORK.

Galvanizing Works and
Warehouse:
Kent Ave. & N. 10th St.
BROOKLYN, N. Y.



Gas City Road, Marion, Ind.

LEWIS ROAD TAR PRODUCES

An up-to-date pavement containing all the essentials of a permanent and satisfactory roadway. With the changed condition of traffic a binder such as LEWIS ROAD TAR is absolutely necessary to protect the top or wearing surface of the road. Lewis Road Tar makes a dustless, mudless, sanitary pavement and is especially adopted for City Streets and Country Roads. The first cost is not large and cost of maintenance very small. Write for our specifications and information concerning why you should use LEWIS ROAD TAR.

F. J. LEWIS MFG. CO.
COAL TAR PRODUCTS

CHICAGO and MOLINE, ILL.
New Orleans, La.
Memphis, Tenn. Birmingham, Ala.

This Year—Next Year Years to Come



*New York State
Highway.
Equipped with
ELASTITE.*

New York State Road Officials selected the expansion joint for their state roads wisely. New York State roads are

Laid to Last with Carey ELASTITE Expansion Joint

ELASTITE makes permanent roads. It gives perfect expansion at all temperatures. Besides, ELASTITE lessens the operating cost during construction and is used for brick, concrete or creosote wood block pavements. Let us send you a sample.

THE PHILIP CAREY COMPANY
8 Wayne Avenue Lockland, Cincinnati, Ohio

THE AMERICAN CITY

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Rundle-Spence Mfg. Co.....	37				

Sound Business Accounting for Municipalities—

To have complete, accurate and prompt information about financial conditions in your city, you must have an efficient accounting system.

Our experience with municipal accounting systems in many cities qualifies us to help you solve the financial problems of your community.

Let us send you our booklet, "Sound Accounting." It will interest you.

Clinton H. Scovell & Co.

Certified Public Accountants
Industrial Engineers

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Steamers Bldg., Springfield, Mass.

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Loper Fire Alarm Co.

STONINGTON, CONN.

Manufacturers of

Compressed Air Fire Whistles

Whistle Blowers

Bell Strikers, Boxes, Gongs

Etc., Etc.

Estimates Cheerfully Given



Star Electric
Fire Alarm and Police
Signaling Apparatus



Built to Meet Modern Conditions

Selected by Engineers of the Panama-Pacific Exposition, to Safeguard the most valuable collection of treasures ever assembled in inflammable buildings.

Write us for quotations and information on your special requirements.

STAR ELECTRIC COMPANY

42nd Street Building, 1940 Peoples Gas Bldg., 461 Market Street
New York City, N.Y. Chicago, Illinois San Francisco, Cal.
686 Franklin Avenue, Newark, N. J. 656 Pacific Electric Bldg., Los Angeles, Cal.

GOOD-BYE MOSQUITOES!

TRADE **KILARVA** MARK

"DEATH TO MOSQUITOES"
HAS ARRIVED

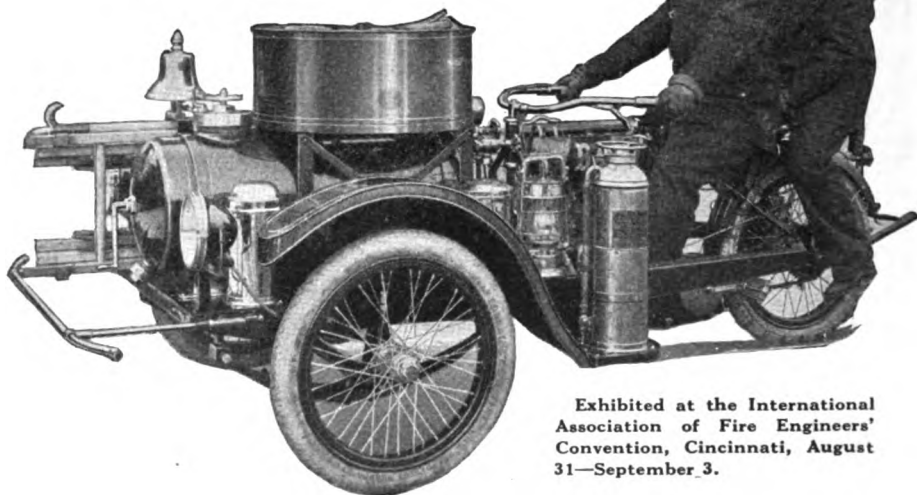
Cheaper than oil in the long run, and many times as effective.

MR. HEALTH OFFICER—YOU owe it to your community to try **KILARVA**. Let us send you literature and a sample of the **BEST** larvicide. We also manufacture disinfectants, insecticides and preventatives. Tell us what you want. We have it.

HILL CHEMICAL PRODUCTS CO.

Room 539 Real Estate Trust Bldg., Philadelphia, Pa.

The latest thing in chemical fire apparatus—fully equipped, simple in operation, always ready and always reliable.



Exhibited at the International Association of Fire Engineers' Convention, Cincinnati, August 31—September 3.

Is Your Town Awake

to the fact that the cost of fire protection is rapidly being revolutionized? The efficacy of modern chemicals and the latest ideas in motor-driven apparatus, combined in the

Dayton Tri-Car Chemical

have cut the cost in two. Remarkably satisfactory fire protection can now be had by the smallest community, the most sparsely settled suburb, or the city residence district without recourse to big bond issues.

Fire chiefs have been quick to realize this and many have investigated and recommended the Dayton Tri-Car Chemical. But has your Chamber of Commerce, Board of Trade or Improvement Association awakened to its possibilities?

Co-operate with your fire department by sending for complete information and specifications. Put your problems up to our engineers. They are here for the purpose of serving you. Catalog R-1 is yours for the asking.

The Davis Sewing Machine Co.

Fire Apparatus Department

Linden, Davis & Massie Aves., Dayton, Ohio



Proposal and For Sale Notices, Help Wanted and Situation Wanted Advertisements, Etc.

WATERWORKS AND SEWERAGE SYSTEM

WHITEHALL, MONT.

Sealed proposals will be received by the Town of Whitehall, Jefferson County, Montana, until 5 P. M., September 23, 1915, at the Council Chambers in Whitehall, Montana, for furnishing materials, machinery and constructing a complete water works system and sewerage for the said town, in accordance with plans and specifications on file in the office of the Consulting Engineer for the said town—George E. Baker.

This work includes furnishing motor or gasoline engine, or both, pumps, steel tower and tank, fire hydrants, gates, water-pipe and pump-house. Also a complete sewer system and Imhoff disposal tank, as shown on plans.

Each proposal must be accompanied by a certified check for three per cent. (3%) of the amount of the bid, but to be not less than three hundred dollars (\$300.00), made payable to the Town of Whitehall, Montana, as evidence of good faith.

Specifications, form of proposal, contract and plans may be seen at the office of the Mayor, in Whitehall, Montana, or will be mailed upon application to the Engineer, in Whitehall, Montana, accompanied by the payment of five dollars (\$5.00), for the specifications and form of proposal and contract, and five dollars (\$5.00) for the plans.

The right is reserved to reject any or all bids.

GEORGE E. BAKER,
Consulting Engineer.

A. A. NEEDHAM, Mayor.
F. E. McCALL, Town Clerk.

SANITARY AND STORM SEWERS

CLINTON, IOWA.

Sealed proposals will be received by the City Clerk in his office in the City Hall until eight (8) o'clock P. M. on the 14th day of September, 1915, for constructing sanitary and storm sewers in Sewer District No. 2 and in Sewer District No. 3, consisting of the following approximate quantities:

SEWER DISTRICT NO. 2

12,476 lin. ft. vitrified or concrete pipe sewer ranging from 33 ins. to 8 ins. in diameter.

Manholes, catch basins and concrete bulkhead.

Certified check on a Clinton bank, \$2,000.

SEWER DISTRICT NO. 3

5,956 lin. ft. of segmental block or reinforced-concrete sewer ranging from 54 ins. to 30 ins. in diameter.

16,856 lin. ft. of vitrified or concrete pipe sewer ranging from 24 ins. to 8 ins. in diameter.

Manholes, catch basins and concrete bulkhead.

Certified check on a Clinton bank, \$5,000.

Plans, specifications and forms on file with the City Engineer and may be obtained for private use by a remittance of \$5.00 for each district.

FRANK W. LEEDHAM, City Clerk.
J. G. THORNE, City Engineer,
317 Howes Block, Clinton, Iowa.

PIPE, VALVES, HYDRANTS, AND SPECIALS

MEDINA, OHIO.

The Board of Public Affairs of Medina, Ohio, will open bids for: 12,386 ft. 4-in. pipe, 37 4-in. valves, 15 hydrants and 6,800 lbs. specials on September 15, 1915. Information may be had by addressing

B. E. ECKARD, Clerk.

NEW SCHOOL BUILDING

CINCINNATI, OHIO.

Sealed proposals will be received at the office of the Clerk of the Board of Education, third floor, City Hall, Cincinnati, Ohio, until 12 o'clock noon, Monday, September 20, A. D. 1915, for furnishing all materials and doing all work necessary to complete the bridge, tower and buildings A, B, C, D and E, of the new East Side High School, located at the corner of Madison Road and Erie Avenue, Hyde Park, in the City of Cincinnati, Ohio, in accordance with plans and specifications on file in the office of the undersigned, at No. 511 West Court Street, in said City of Cincinnati.

The prices of labor and material must be stated separately, and bidders may submit proposals for any or all of the following items of construction, viz.:

Excavation and reinforced concrete work; asphalt floors and stair treads; exterior cement work; brick work; cut stone work; carpenter work and lumber; sheet metal work and roofing; plastering; painting and glazing; interior marble, tile and terrazzo work; plumbing and gas fitting; hardware; structural and ornamental iron work; lockers; metal weather stripping; electrical work; elevator.

Bids will also be received and considered comprising all the foregoing items and branches in single proposals.

Each bid must contain the name of every person interested therein and be accompanied by a guarantee of some disinterested person in a sum equal to 10 per cent. of the amount of the bid, that if same is accepted a contract will be promptly entered into and the performance of same properly secured.

Bids must be on blank forms, to be obtained at the office of the undersigned, placed in sealed envelopes and plainly marked on the outside "Bid for Brick Work," or as the case may be.

The Board of Education reserves the right to reject any or part of any or all of said bids.

A bond is required on all contracts in excess of \$500.

By order of the Board of Education.

C. W. HANDMAN, Business Manager.

PUBLICITY MAN

Thoroughly experienced, open to engagement. Has favorable record for accomplishment, and is familiar with municipal improvement factors, including bonds, sinking funds, and other retirements; street, sewer, park, public building and other construction and maintenance. Writer and speaker. Address Box 38, THE AMERICAN CITY.

GENERAL MANAGER

A man of first class business and executive ability, with 20 years' practical experience in the management of municipal affairs desires a position as GENERAL MANAGER for a progressive city. Address Box 37, care THE AMERICAN CITY, New York.

Commercial Secretary

Specialized upon intensive committee work. Will be pleased to give detail of experience, secretarial training and references on request. Box 34, AMERICAN CITY, 87 Nassau St., New York City.

CITY MANAGER.

Have been training in New York for three years and have had practical experience in municipal work. American City, Box 32, 87 Nassau St., New York City.

MUNICIPALITIES

DESIRING A

Park Superintendent,
Engineer, Forester,
or Landscape Architect,

Communicate with

AMERICAN ASSOCIATION
OF PARK SUP'TS

R. W. COTTERILL, Sec. SEATTLE, WASHINGTON

An Interesting Catalogue of Books

On Municipal Improvements
will be sent FREE on request by

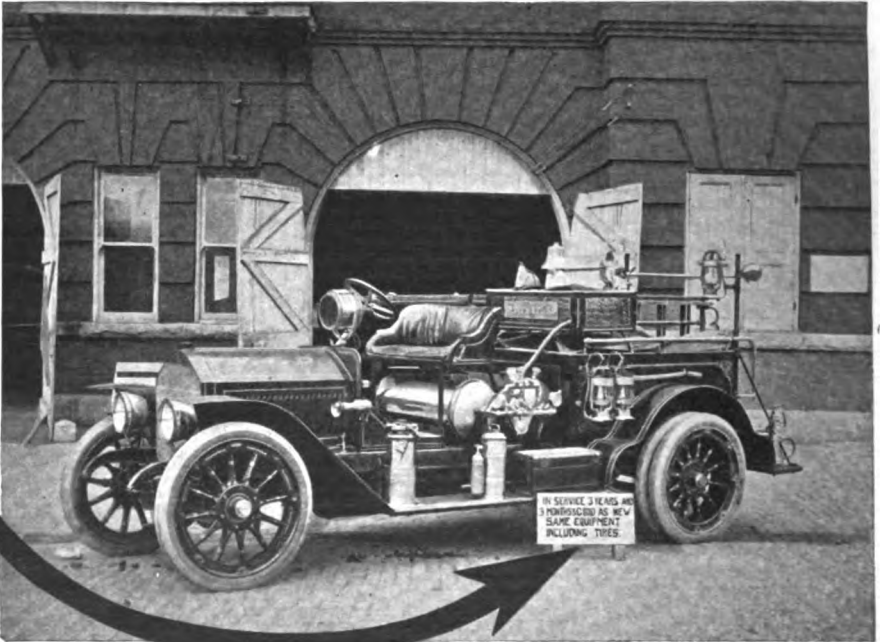
THE CIVIC PRESS, Fulton Building, New York

THE AMERICAN CITY

THIS MEANS

Efficiency and Economy

Only Possible With Properly Designed
Motor Fire Apparatus



AMERICAN-LA FRANCE MOTOR CAR
AT VALDOSTA, GEORGIA

AMERICAN-LA FRANCE FIRE ENGINE COMPANY, INC.

ELMIRA, N. Y.

Members of National Automobile Chamber of Commerce Licensed Under the Dyer Patents.

Fire Fighters Depend on Goodyear Tires

Look for the facts—past records—when you buy fire truck tires.

Be sure they will do what you expect them to. Or if you expect trouble from every tire then you don't know Goodyears.

Last year alone 52½% of all new motor driven fire apparatus in this country was equipped with Goodyear Fire Truck Tires.

You know there must be real reasons when one tire can lead like that.

Commencing 1914 there were 344 City Fire Departments using Goodyear tires. In the one year 148 new cities were added. That means 492 cities favored Goodyears.

The record so far this year will far overtop the past.

Then here is another significant fact. 78 cities in 1914 already using Goodyears, specified Goodyears on new apparatus purchased.

This, we claim, is the best proof we know of that Goodyear tires excel. We suggest to you, when next in the market for fire truck tires, that you remember the name and reputation of Goodyear.



Goodyear
Anti-Skid
Cushion
Tire



GOODYEAR
AKRON, OHIO
Fire Truck Tires

Anti-Skid Cushion Fire Truck Tires

The Goodyear Cushion Fire Truck Tire was designed for high speed Fire Department Service. For speeds not to exceed 35 miles per hour it is without a peer. This tire is the best for heaviest apparatus.

The patented undercut sides, slantwise bridges and resilient construction take up the shock, strain and jar.

The anti-skid feature insures safety at high speed and on quick, sharp turns.

Fortified Pneumatic Tire with All-Weather Tread

The Goodyear Fortified Tire with the All-Weather Tread is the ideal extra-strength pneumatic tire for lighter equipment.

The famous All-Weather Tread gives perfect protection against slippery pavements and rough going. The deep rugged blocks hug and grip the road and add to the wearing quality of the tire.

Has all the Goodyear features that insure security and prevent rim-cutting, skidding, tread separation and blowouts.

Write today for book, "Getting to the Fire." Address Desk 138.

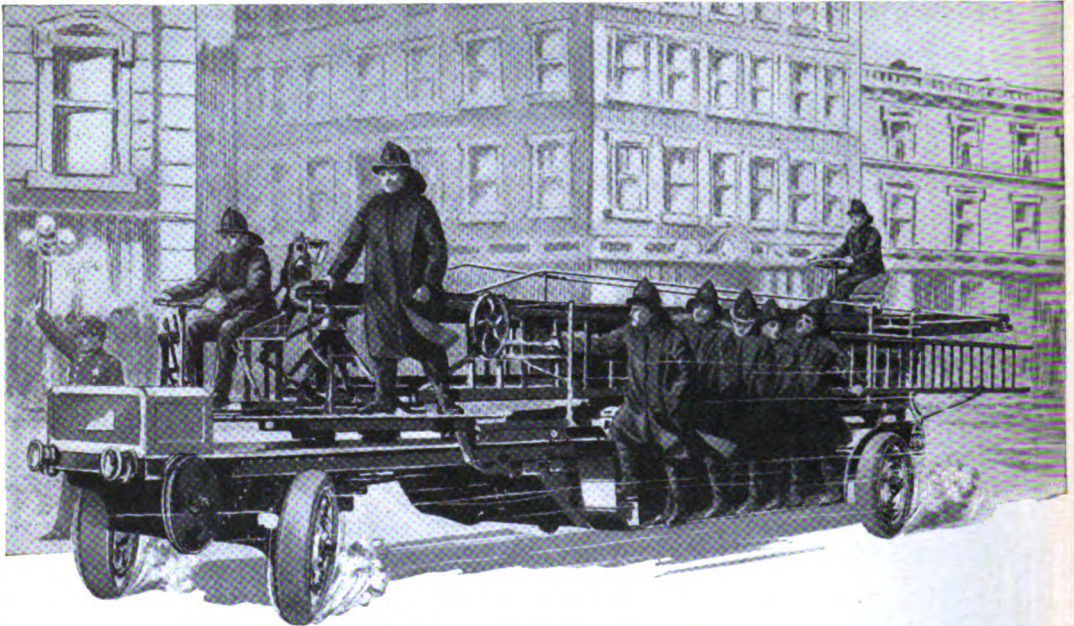
THE GOODYEAR TIRE & RUBBER COMPANY, AKRON, OHIO

Makers of Goodyear Fortified Automobile Tires

We Make Demountable, Block, Cushion, Pneumatic and Other
Types of Truck Tires (2531)



Goodyear
Fortified
Tire with
All-Weather
Tread



Road-Grip Resiliency Endurance

—these are essentials of service supplied to the limit with Firestone Solid Rubber Tire Equipment

These vital Firestone values, under heavy apparatus, insure that sidelas is reduced to the minimum, and the vibration greatly lessened. This means a big saving on men and mechanism.



Firestone

Pneumatic and Solid Rubber Tires For Horse or Motor-Driven FIRE APPARATUS

Firestone NON-SKID Pneumatics are the sure choice for light apparatus because of the security afforded at high speed, the extra protection from vibration and the economy of Most Miles per Dollar.

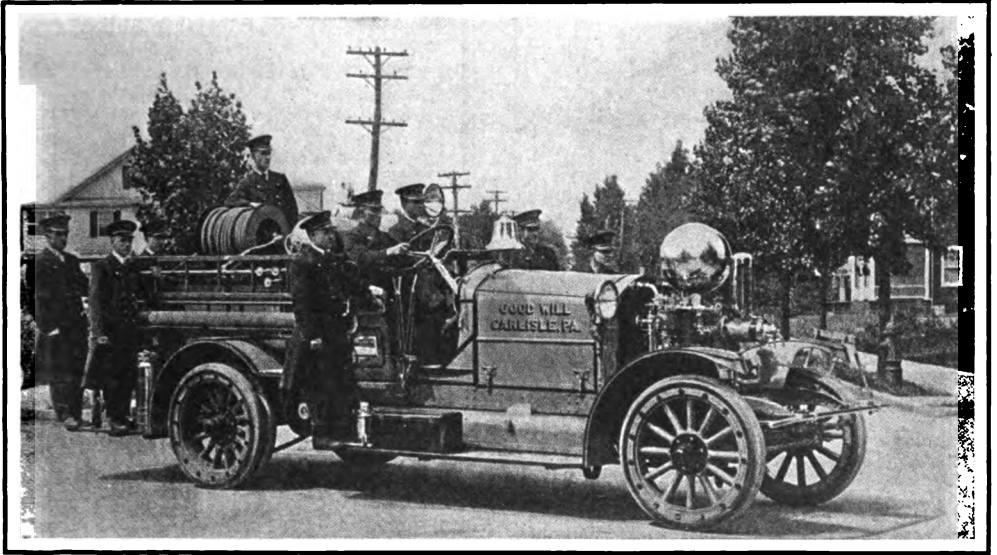
There are Firestone Service Stations everywhere, assuring quick delivery or prompt service of any kind. Write for catalog.

FIRESTONE TIRE & RUBBER CO.

"America's Largest Exclusive Tire and Rim Makers"

AKRON, O.—Branches and Dealers Everywhere

AHRENS-FOX ON GUARD



AHRENS-FOX PISTON PUMPER AT CARLISLE, PA.

WHEREVER Ahrens-Fox is on guard tonight the city may sleep in peace. Fire bells have no terrors for men whose homes, property and business are guarded by Ahrens-Fox. His mission in life is to give absolute protection from fire. When called to duty his big engines respond with a powerful flood of water that puts a sudden end to property's greatest destroyer.

*Send today for book describing
Ahrens-Fox Multiple Piston Pump
and Ahrens-Fox Service Motors.*

**THE AHRENS
—FOX FIRE ENGINE CO**
CINCINNATI, OHIO

The Fire Hose You Will Eventually Buy

Would you throw away your automobile casing because your inner tube cracked or punctured, or your inner tube when the casing wears out?

Certainly not—you repair or replace them, and that is just what you can do with "Two-Part" Fire Hose.



The Outer Cotton Jacket

The Inner Rubber Tube

Old Hose Made Practically Good as New

If your old hose leaks and cotton jacket is in fairly good condition—can be made serviceable and guaranteed by using our Special Re-line Tube. *Write for samples and prices.*

Purchased by More Than Fifty Cities in Ninety Days

Official Report and Record of "Two-Part" Fire Hose in Chicago Fire Department:

From March 9th to July 15th, 1915:

Performed duty at twenty-one fires
Time worked—22 hours, 10 minutes
Pressure—60 to 250 lbs.
Hose now in first-class condition

City officials quickly see the common sense, practicability and economy in "Two-Part" Fire Hose—the Fire Hose you will eventually buy.

Write or Telegraph—Our Expense—for Samples and Prices.

CHICAGO FIRE HOSE CO.
53 West Jackson Blvd., Chicago

The far-reaching tones of New Departure Fire Bells

rise clear and distinct above the din of traffic

"FIRE!" is the first thought of all who hear them. ¶ The public never stop to see what's coming. ¶ They know. ¶ They get out of the way. ¶ The road is cleared, instantly, instinctively. ¶ No other alarm will do this. ¶ New Departure Fire Bells are used on apparatus in the largest cities, in the smallest towns.

Send for our new complete catalog

THE NEW DEPARTURE MFG. CO.
BRISTOL, CONN., U. S. A.

Empire Rubber & Tire Co.

Manufacturers of

HIGHEST GRADE FIRE HOSE



also Garden Hose and a complete line of mechanical rubber goods.

Factories, TRENTON, N. J.

FIRE DEPARTMENT SUPPLIES

Larkin Shut-Off Nozzles, Automatic Relief Valves, Play Pipes, Siamese Connections, Buckley Hydraulic Expanders, Supplies of every description for Fire Departments.

LARKIN MANUFACTURING CO.
DAYTON, OHIO

BOYD AERIAL TRUCK

The Quickest & Best Hoisting Device on the Market

Combining *Power, Spring* and Hand Hoist. Can be operated with ease by one man, and extended to full height of 85 ft. in one minute.

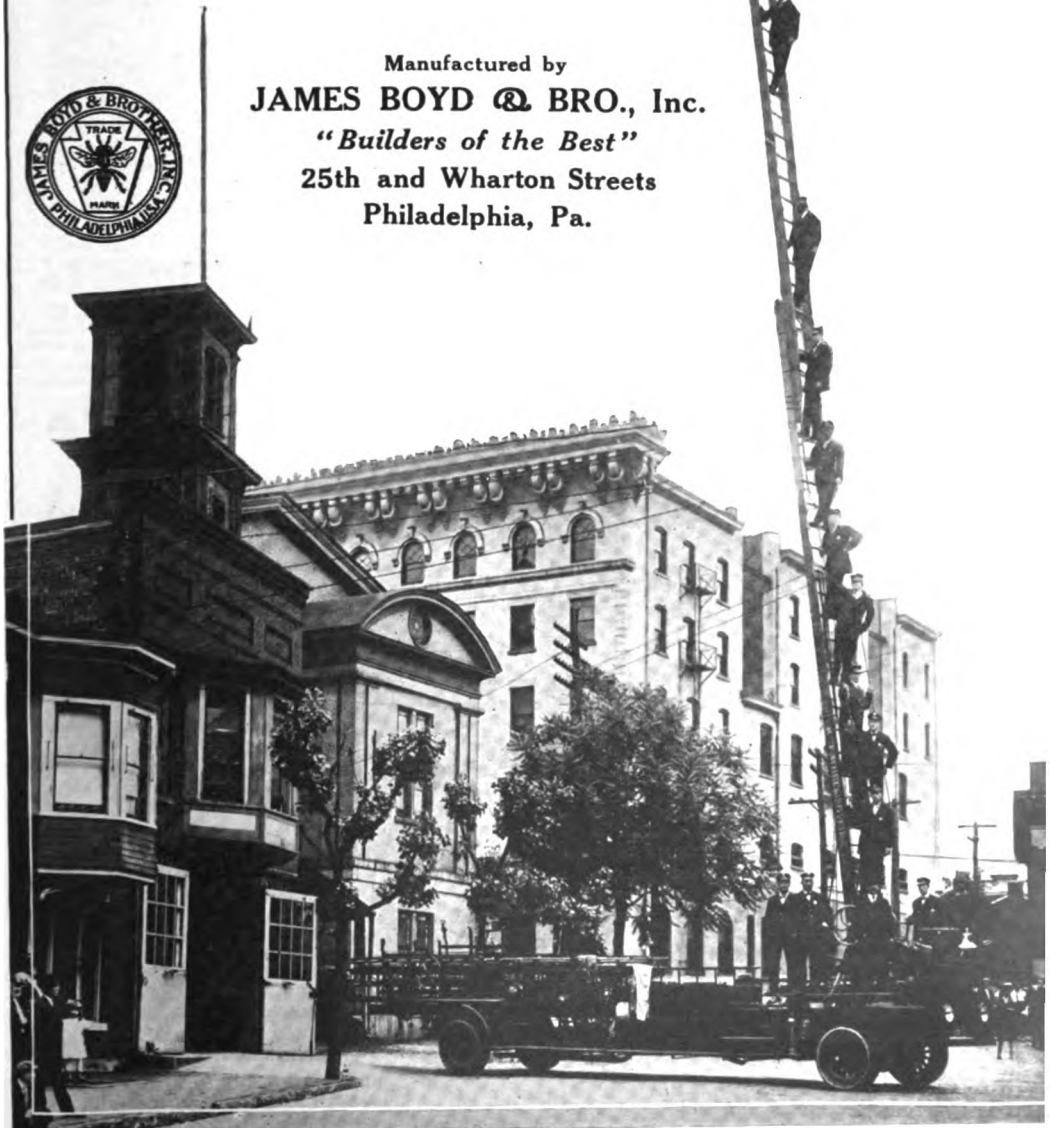
Note the Rigidity of the Ladder



Manufactured by
JAMES BOYD & BRO., Inc.

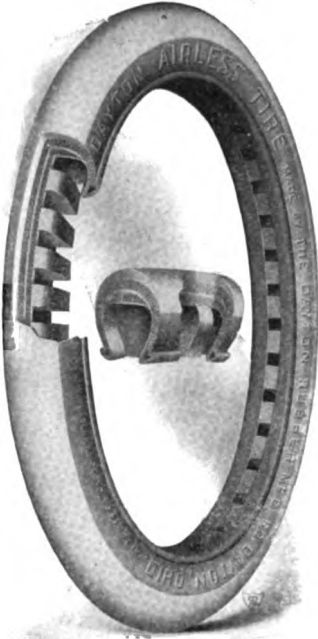
"Builders of the Best"

25th and Wharton Streets
Philadelphia, Pa.



When writing to Advertisers please mention THE AMERICAN CITY.

DAYTON AIRLESS TIRES

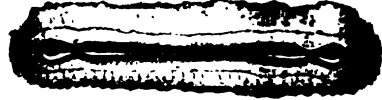


are the only tires which fulfill all the requirements for motor fire service. They cannot puncture — cannot blow out — safe at any speed — do not jolt or jar the mechanism of your apparatus, thereby eliminating all repair bills — always ready for the hardest kind of service.

Insist on Dayton Airless.

THE DAYTON RUBBER MFG. CO.
1013 Kiser St. Dayton, Ohio

Bi-Lateral Fire Hose



End View of Bi-Lateral Hose Flattened

Will not crack

There is nearly two and a half times the usual amount of service in Bi-Lateral Fire Hose. Judge for yourself:

The rubber lining is left free from its jacket in Bi-Lateral Hose where congestion takes place in hose of old construction. By allowing the rubber lining here its freedom, when the hose is flattened, the Bi-Lateral tube takes two curves at the points of fold, which relieves the compression (see illustration) whether the hose is flat or under pressure.

It is the most pliable hose made and can be flattened without injury.

Bi-Lateral Fire Hose Co.
326 W. Madison St. Chicago, Ill.

THE GAMEWELL FIRE ALARM TELEGRAPH CO.



"Registered U. S. Patent Office"

Manufacturers of
Fire Alarm and Police Signal
TELEGRAPHS

for
Municipalities and Private
Parties

The Gamewell system of to-day is the outcome of the combined inventive genius and mechanical skill of many whose valuable services the company has been able to secure during the past fifty-seven years, in pursuance of its policy of meeting at any cost the requirements of the varied conditions existing in different localities.

Correspondence Solicited.

General Office and Works:
Newton Upper Falls, Mass.

A Fire Hose

of unusually careful manufacture

Wax and Para Gum Treated

The lining is of fine Para Gum, hand made, four calendered, smooth bore or lap-jointed.

Circular balance woven, each strand of cotton is treated to a bath of melted Wax and Para Gum, then cabled and woven into the jackets.

Absolutely waterproof, making the ideal hose for fire departments.

Treatment lubricates and solidifies the strands of cotton, assuring long wear.

Made in all sizes from
1 to 6 inches inside diameter

Fabric Fire Hose Co.

Corner Duane and Church Streets, New York

BRANCH OFFICES:

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COLUMBUS, O.	PITTSBURGH
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	BALTIMORE, MD.



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Sole Manufacturers



Republic Quality Hose

FIRE HOSE

Cotton, Rubber Lined Rubber Chemical
Underwriters' Mill Engine Suction

STREET WASHING HOSE

VACUUM HOSE

Airoduct Marro Republic

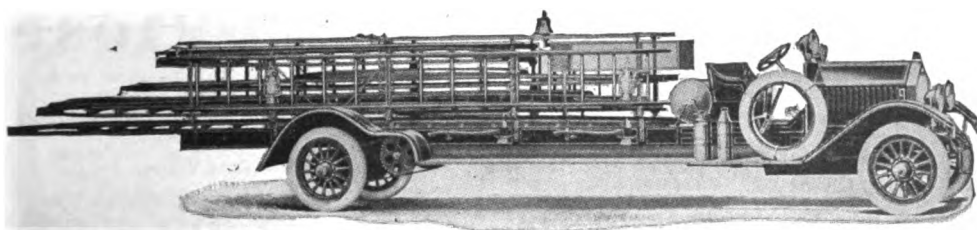
MOLDED GARDEN AND WATER HOSE

In Lengths up to 1000 Feet

RUBBER VALVES

THE REPUBLIC RUBBER COMPANY

YOUNGSTOWN, OHIO, U. S. A.



A High Class Type of City Service Truck

Before purchasing your new service truck, let us have your name and address. We will send you some important reasons why South Bend Double Duty apparatus stands for

Quality and Service

We manufacture all kinds of motor-driven apparatus for municipal use—fire trucks, police patrols, ambulances or service trucks of the highest type of construction.

South Bend Motor Car Works, **South Bend Ind.**

R.D. Wood & Co.

PHILADELPHIA, U. S. A.

**ENGINEERS
IRON FOUNDERS
MACHINISTS**

**Pipe Hydrants, Valves,
Gas Producers, Pumps,
Gas Work Materials**

FIRE HYDRANTS



**Frost-Proof
Simple-Efficient**

All parts removable without digging up hydrant. Special device prevents street from being flooded should stand pipe be broken. Minimum expense to install and maintain.

LUDLOW

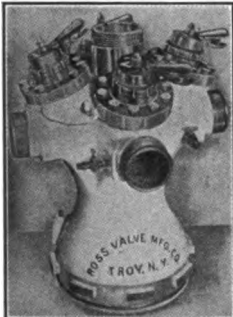
GATE VALVES

FOR
Water, Steam
Gas, Oil, Hydraulic
or Electric Operated
All styles, any size, all pressures

-- THE --

**Ludlow Valve Mfg. Co.
TROY, N. Y.**

Branch Offices
New York Chicago Boston
Philadelphia Pittsburgh
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**High Pressure Fire
Specialties, Portable
Hydrant Heads**

Our Regulating Valves control the high pressure on the Fire Service Systems of

New York
Brooklyn
Baltimore
Jacksonville
San Francisco
Cincinnati

Manufacturers of Water
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Water Filters.

ROSS VALVE MFG. CO., Troy, N.Y.

The IOWA Fire Hydrant

(The Latest Corey Type)

Newest and most improved design
of fire hydrant. Write for circular.

Also manufacture Gate Valves,
Valve Boxes

**Anderson
& White**

Sole Eastern Agents, Iowa Valve Co.

2 Wall St.,
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SLUICE GATES, CHECK VALVES, AIR VALVES, INDICATOR POSTS, ETC.

**GATE
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EDDY

**FIRE
HYDRANTS**

Hydraulically and Electrically Operated Valves and Sluice Gates. Valves Designed For All Kinds of Service.

EDDY VALVE COMPANY, WATERFORD, N. Y.

New York

Chicago

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Water Gates & Fire Hydrants

BUILT FOR UTILITY AND DURABILITY

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PRATT & CADY CO., INC.

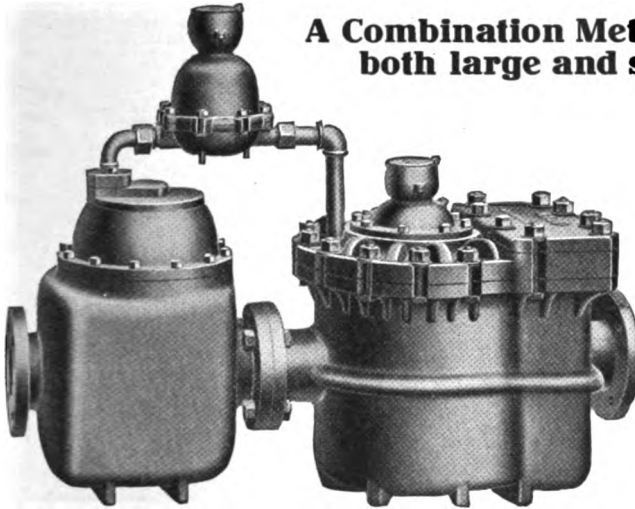
HARTFORD, CONN.



THE NILO COMPOUND METER

Meets the demands of water works officials—

**A Combination Meter for measuring
both large and small flows correctly**



The Nilo Compound meter is a combination of the Nilo meter, a high-duty meter of acknowledged accuracy, durability and capacity and the King Disk meter which is unexcelled in accuracy on all flows within its capacity, together with an automatic double differential vertical valve, guided and united by a central stem.

Detailed description of meters for all services and conditions on request.

UNION WATER METER COMPANY

Incorporated 1868

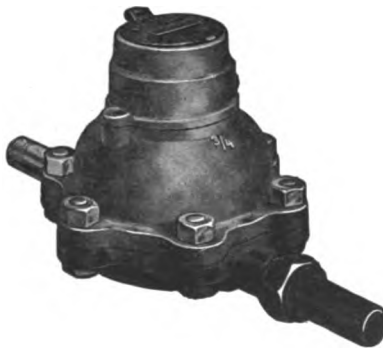
Worcester, Mass.

Makers of Worcester Steam Gongs, Water Pressure Regulators, Water Works Fittings

AMERICAN AND NEW NIAGARA WATER METERS

Their Construction:

Dirt and Sand Proof
Submerged Bearings
—
Reinforced Disc
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Jewel Bearing
Intermediate Gears
—
Adjustment for Pressure
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Only Seven Submerged
Working Parts
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Self-Cleaning and
Sanitary
—
All Bronze Casings,
Part Bronze Casings,
or All Galv. Iron Casings



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Write for bulletins on
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Specifications
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Water Meter
Accessories
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Prices

BUFFALO METER CO.

Established 1892

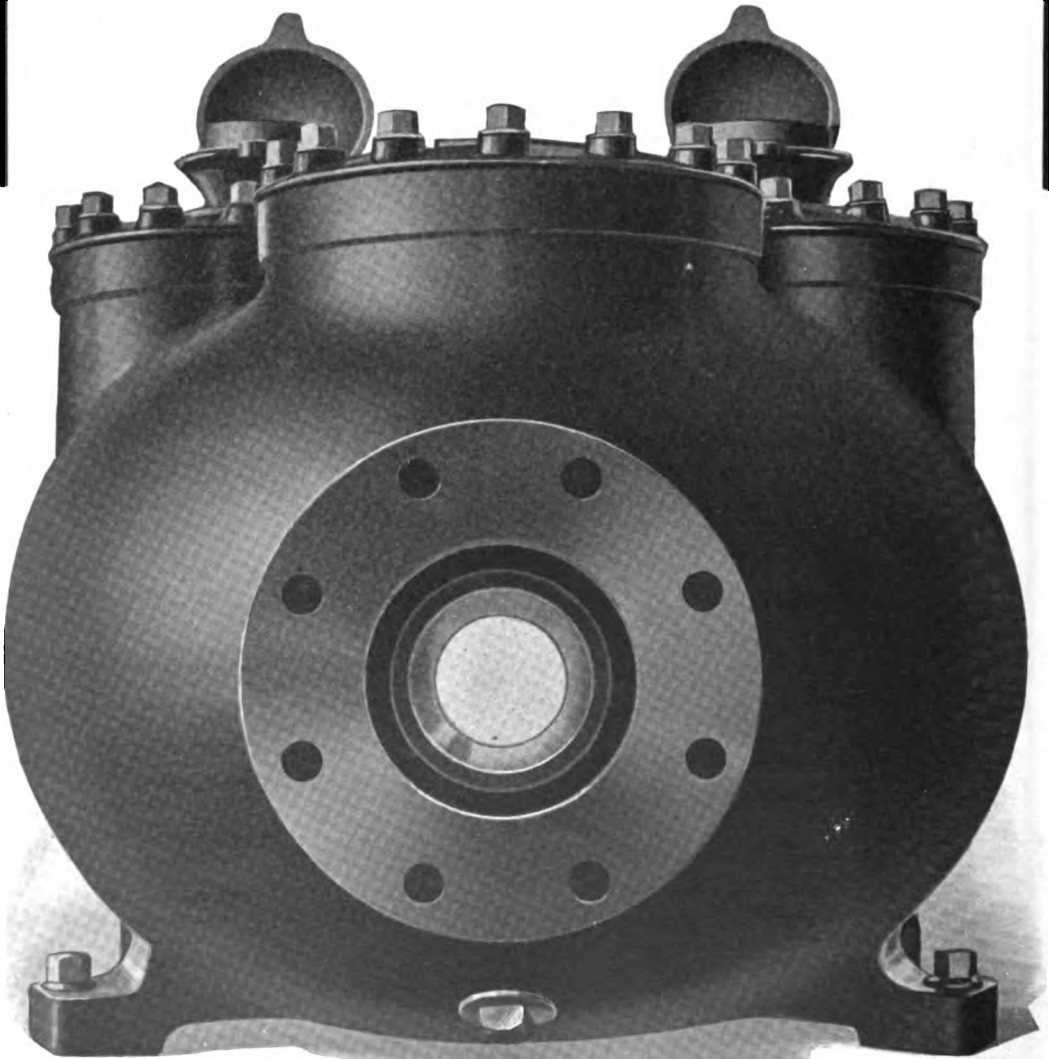
290 Terrace, Buffalo, N. Y.

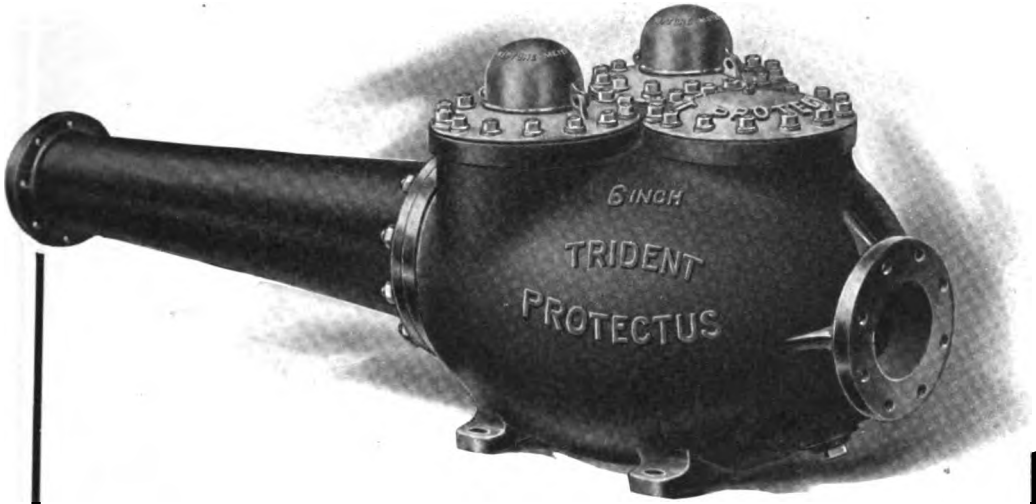
It doesn't obstruct a full flow. Therefore it pleases the fire underwriters.

It measures accurately *all* the water used. Therefore it pleases the water works people.

Therefore, as it protects everybody, we call it

Protectus





On the preceding page you look right through the Protectus.

Above you see it at another angle.

It is the first and only water meter that protects the interests of its owners without getting on the wrong side of the fire underwriters, who will not allow a meter on a fire line that threatens in any way to impair its efficiency as a means of delivering the maximum volume of water in case of fire.

The Protectus Meter has solved this knotty problem. Let us tell you more about it. Or maybe you have some other problem to solve in connection with metering. Perhaps we can help you out on it. We have helped to solve all sorts of meter problems in all sorts of communities with widely differing conditions. It's our business. Let us at least have your address so we may forward some of our free booklets on the subject of metering.

NEPTUNE METER COMPANY

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This Leak Was Never Discovered

until a Pitometer survey of the water mains was made.

No doubt this leak had been there for years causing an actual loss of many thousands of dollars.

There was nothing visible on the surface to tell of the leak. The water escaped from the blown joint and passed away through the ground.

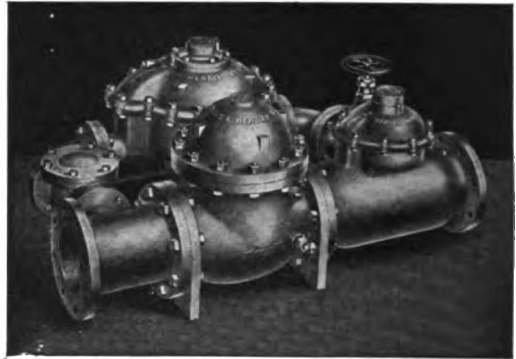
Water Waste like this costs money and is unnecessary. It can be stopped by a thorough

Pitometer Survey

An investigation of this kind will not only bring to light these underground leaks but will be the means of controlling house waste and detecting illegal use of water. This means dollars saved.

Cities such as Toronto and Montreal, Dayton, Ohio, Trenton, N. J., Auburn, N. Y., and over a hundred others have already used our service. Let us tell you what we did for some of these. Write for more information. We are ready to help you.

The Pitometer Company
New York Edison Building
25 ELM STREET, NEW YORK



STOP WHOLESALE LOSSES! USE THE HERSEY DETECTOR METER ON FIRE SERVICES

THIS METER HAS BEEN ACCEPTED WITHOUT RESTRICTION BY INSURANCE COMPANIES AND WATER WORKS IN MORE THAN 500 CITIES AND TOWNS IN THE UNITED STATES AND CANADA

FOR USE ON OVER 3,000 FIRE SERVICES

PROTECTING OVER \$1,000,000,000 WORTH OF PROPERTY

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BUFFALO, CHICAGO, COLUMBUS, O., ATLANTA,
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ALL KINDS OF METERS FOR ALL KINDS OF SERVICES

OVER 600 PATENTS



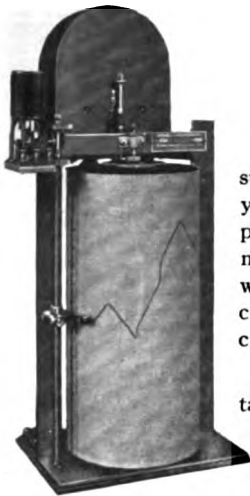
Now made in 100 different models and sizes. The new Clark Meter Coupling Yoke and Clark Riser Coupling are great savers. The Clark Meter Testers are the recognized standards of the world. Made in 9 models regularly and any special construction to order.

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Everything for the Water-Works
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Measures Water Level Miles Away

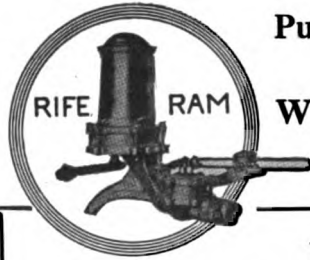
This particular instrument placed in your office or power plant from one to five miles away from your water supply will record water levels accurately.

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It Costs Nothing to Operate

It is the simplest kind of a pump for your water supply system. There is no expense for gasoline, electric power, oil, fuel, etc. It works by itself without any attention whatever.

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Spend \$45 Once— and Stop Losing \$450 Yearly

Do you realize that a water meter, like a watch or a clock, needs a certain amount of attention lest it lose its efficiency as a measuring machine?

In a circular which we have prepared, "The Latest Ford Story," we tell how, by the use of

The Baby Ford Meter Testing Machine

costing \$45, a water department with 500 meters in service may save \$450 a year, and departments with a greater number of meters may make still larger yearly savings.

The Baby Ford inspects one meter at a time, and tells in a moment whether or not it is doing its work properly.

This tester possesses all the high-grade workmanship and material which goes to make up other Ford products. Write us mentioning the American City and let us send you "The Latest Ford Story," it will interest you.

Ford Meter Box Co.

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COMPOUND METERS

Write for specifications

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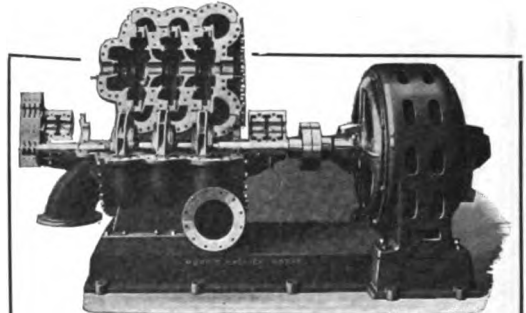
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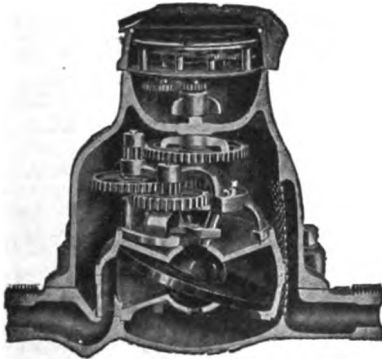
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"WATCH DOG" WATER METERS

Interchangeability
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maintains a uniform stage of water in standpipes, reservoirs or tanks.

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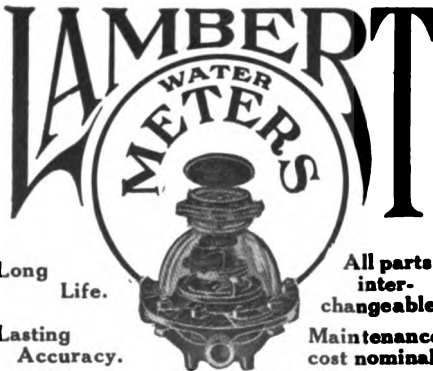
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Long Life.

Lasting Accuracy.

All parts interchangeable.

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A demonstration, on your work, will be given on
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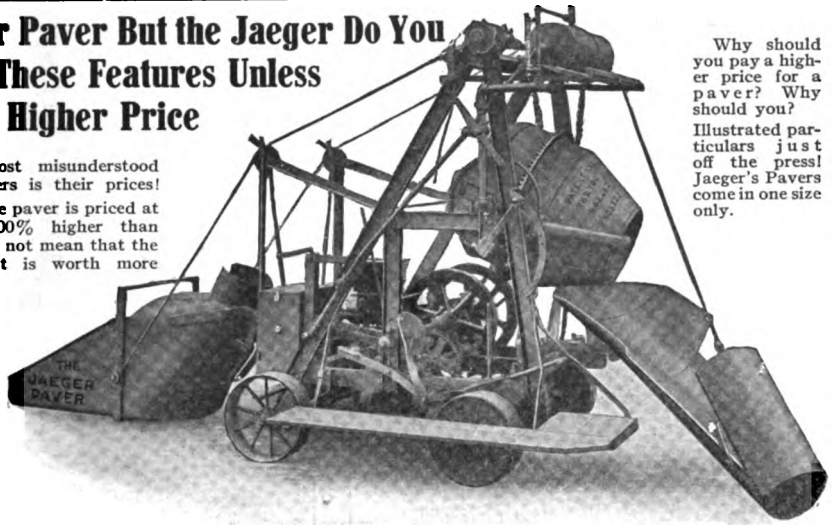
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Write for catalogue illustrating all types of Townsend Lawn Mowers, with list of users (FREE).

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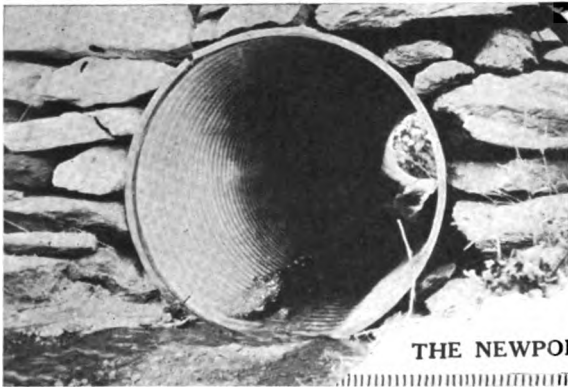
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Our culverts are 99.875% pure iron. They will last practically forever.

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They cannot buckle or uncouple in the duct

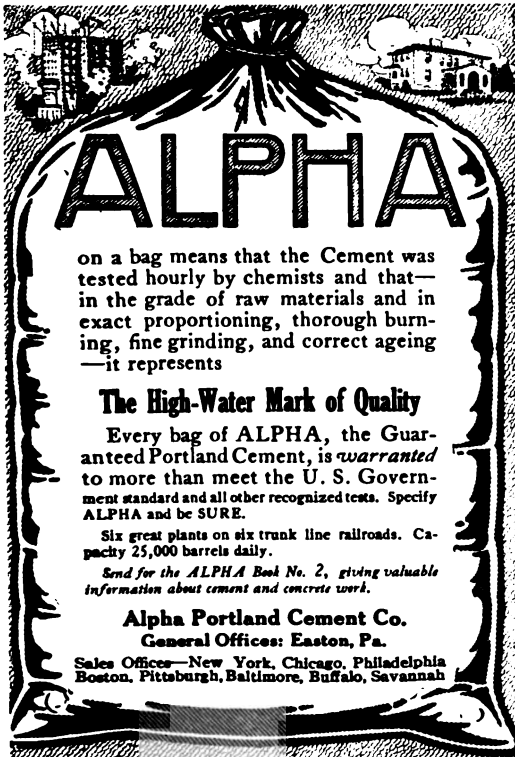


Security Rods are made from second growth hickory, with malleable iron couplings swaged or shrunk down very tightly on to the curved places at end of sticks. Security couplings cannot come off.

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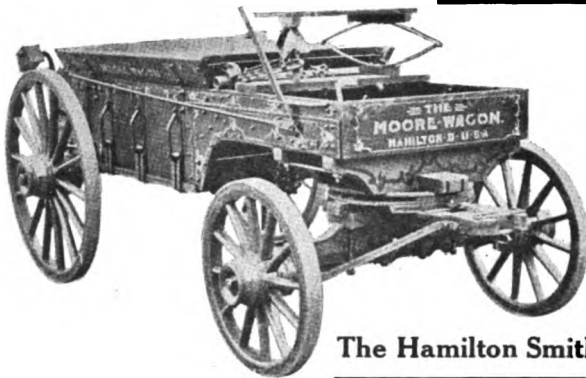


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JUST THE DUMP WAGON
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This feature makes it easy to shovel into and saves time of your men.

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Convenient to all points of interest—popular with visitors to Niagara Falls and Resorts in the vicinity—cuisine and service unexcelled by the leading hotels of the larger cities.

Conducted on the European Plan, with the following rates:
Room with Privilege of Bath, \$1.50 Per Day Up.
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Special Weekly Rates.

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\$2.50 with bath, and up

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All Hardwood Floors and Oriental Rugs.

Ten minutes' walk to 40 Theatres

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Pumping Engine

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Designed Especially for Road Contractors

Will deliver water along the work for a distance of two miles or may be used to elevate water to height of three hundred feet.

**WEIGHT COMPLETE,
ABOUT 1200
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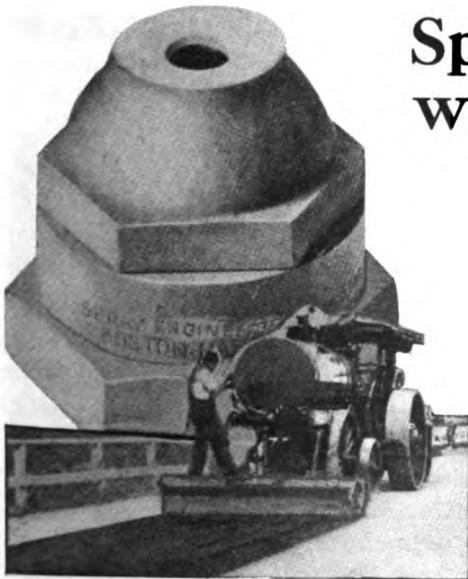
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\$200.00**

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HAROLD L. BOND CO., 383 W Atlantic Ave., Boston, Mass.

Spray Nozzles work with a "will"



Spray Nozzles coat the stones evenly on all sides

They take great care to please you. They always spray with the same evenness, no matter what quality oil or bituminous binder is used—light, medium or heavy.

Spray Nozzles never make you grouchy or cause you to lose your temper by clogging with oil, delaying the job and thus increasing expenses.

Why not say good-bye to the troubles you now have with nozzles which clog? Here are nozzles which you can place on your sprinkling and spraying machines so that spraying is made an economical method instead of a costly experiment.

Write to us for our booklet.

Engineers for Spray Cooling
Ponds, Irrigation Systems,
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Manufacturers of Air Wash-
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Park Sprinklers

The Achievement at Charlotte, N. C.

The Greater Charlotte Club had accomplished many good things for Charlotte. Its membership included men with ability and force of character, who were sincerely interested in their city's success. This organization had always been hampered, however, by lack of funds and small membership.

A careful investigation of the experiences of other cities showed that this work of reorganization could be most effectively accomplished through the services of specialists who were giving their lives to work of this sort. An examination of the results secured by different specialists finally led to engaging the American City Bureau.

Shortly afterwards the Charlotte Chamber of Commerce came into being and under the guidance of the Bureau developed to a membership of 489 with a yearly income of over \$12,000 pledged for three years.

The services of the Bureau did not end with the campaign, either. A representative remained in Charlotte for over one month afterwards and finally left the Chamber with its plan of action definitely outlined, with committees organized and started on the work of carrying out this plan. The plan is based directly on the wishes of the membership. The committeemen have been chosen for the work in which they are interested. The Charlotte Chamber of Commerce is prepared to get results.

This achievement is simply one recent indication of the strength that the American City Bureau could bring to *your* organization. It is one of a long succession of similar achievements.

Our record of work well done is producing its logical result. Our schedule of engagements for this Fall is rapidly filling up. Already engagements have been made with Bridgeport, Conn., Evansville, Ind., and Durham, N. C. Others are pending.

If prompt action is taken, the American City Bureau could probably be engaged this fall to strengthen your organization as it has strengthened these others. Within a few weeks more it may be necessary for us to postpone engagements until next year. May we not hear from you?

THE AMERICAN CITY BUREAU, 87 Nassau Street, New York

Drinking Fountains of Every Variety

A Cooling Drink for Everyone—

You may have a drink of water from our fountains whether you have a cent to your name or not. We make the bubbling kind. Just when you need a drink the worst way, then Rundle Spence fountains are a blessing of the practical kind.

They shoot a clear, cool stream of water to your mouth. And the water is not contaminated. It is as pure as it can be. No lips touch the nozzle.

Your city should consider this most important question of placing drinking fountains on your streets, in your parks and squares for the use of everyone—man and beast alike.

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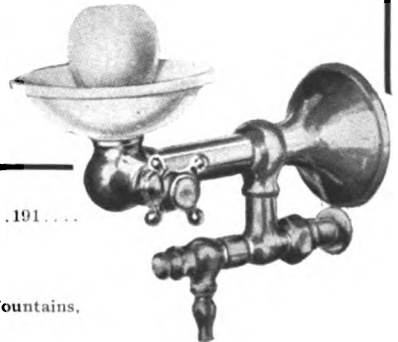
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A report of the Portland Chamber of Commerce special paving committee, dated June 12, concludes:

* * * "We are certain that everybody concerned in this paving problem who is entirely disinterested, has been, and is now, seeking to get the very best available pavement for the county, because it is realized that, in so doing, the county will be furnishing an object lesson which will be an incentive to depart from the unwise policy of the past, which has resulted in throwing money away for useless macadam roads."

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Editorial Comment

Ashtabula—The American Pioneer in Proportional Representation

In an editorial entitled "The City Manager—and the Next Step," THE AMERICAN CITY said, last January:

"The short ballot idea and the city manager idea have evidently 'arrived.' And the next step forward—if we may venture the prediction—will be the adoption of the proportional representation method of electing city councils."

To Ashtabula, Ohio, belongs the credit of having become the pioneer in making this prediction a reality. At the November election of 1914 Ashtabula had adopted a new charter providing for seven councilmen and a city manager. At a special election held on August 10, 1915, this new charter has been amended so as to provide that when the councilmen are chosen in November they shall be elected by the Hare system of proportional representation.

The adoption of this innovation in American municipal government is the result of a campaign of education conducted by the local Committee on Charter Amendment, consisting of W. E. Boynton, C. H. Gallup, F. J. Kempel, J. D. Knowlton and C. E. Wallin. A leaflet addressed to the voters contained endorsements of the proposal by such authorities as William Dudley Foulke, President National Municipal League; Richard S. Childs, Secretary National Short Ballot Organization; Charles A. Beard, Professor of Political Science, Columbia University; Jeremiah W. Jenks, Professor of Government, New York University; Senator Robert L. Owen, of Oklahoma; George Burnham, Jr., of Philadelphia; Lent D. Upson, of Dayton, and others.

The movement also had the hearty and effective support of the American Proportional Representation League, through its Secretary, C. G. Hoag, of Haverford, Pa.

Another leaflet used in the charter campaign contained the following explanation of the amendment:

"The large powers which the city charter gives the council make it very important that the people should be fairly represented in that body if the charter is to be a success.

"The election of the seven councilmen by the ordinary election-at-large plan now in the charter will not give either the people living in different sections of the city, or people having different opinions regarding city policies, the representation in the council to which they are entitled.

"The proportional method of election provided in the charter amendment will give this representation much better than it could be done by the ward plan, for it allows each quota of voters in the city to elect one councilman. By quota is meant one more than one-eighth of the whole number voting at the election.

"The election of councilmen by the proportional method is similar to their election by wards in that it allows the voter but a single vote. In fact, this system is frequently termed 'the single transferable vote.' It allows the voter to express as many choices as he pleases and then provides that his vote shall be counted for his highest choice which it can help to elect. By this method practically every one's vote counts in the election of some candidate he prefers, while by the ward plan a great many voters—frequently a majority—lose their votes by the defeat of the candidates for which they voted. The charter plan of election is no better than the ward plan in this respect.

"The charter commission, a majority of whom favored the idea of proportional or true representation of the people in the council, held that as the people here knew little or nothing of the proportional method of election,

it would be wiser to submit it to them as an amendment to the charter than it would to incorporate it in the charter before it was adopted.

"Experience in countries where this system has been in use for several years has proven it to be entirely practical as a method of election.

"The following are three of the more important advantages this plan of election has over the plan now in the charter:

"1. By requiring the support of a different quota of voters for the election of each member of the council, it makes it impossible for any party or faction to elect a majority of that body by centering its vote on four candidates. This is the feature of this form of election that takes the work of the city out of politics.

"2. It will give any minority comprising more than one-eighth of the voters of the city a chance to be represented in the council.

"3. It will insure a satisfactory continuity of policy in the city government.

"The voter's part in this plan of election is very simple, as shown in Section 46-1 of the amendment. The work at the precincts is also short and easy, consisting simply in counting the ballots according to first choices and forwarding them in properly marked packages to the office of the county board of elections at the City Hall.

"The work of the county board of elections in compiling the vote and transferring the surplus ballots and the ballots of defeated candidates, in accordance with the choices the voters have marked on them, is governed by specific rules which cover every detail involved in this operation.

"Fair play in transferring ballots is assured by rule (r) in providing that the candidates and others shall be allowed to be present and see it done.

"The amendment also makes important and desirable changes regarding nominations, filling vacancies and the recall.

"This amendment makes no change in the form of the non-partisan rotating ballot provided in the charter."

In a recent letter to W. E. Boynton, leader of the proportional representation movement in Ashtabula, Richard S. Childs said:

"In political science circles your vote on August 10 is the most important event of the year. It takes nerve to be the pioneer in anything, no matter how obvious its merits, but within five years Ashtabula will have plenty of company and there will be a considerable list of other cities which have adopted 'the Ashtabula plan.'"

This prediction, also, THE AMERICAN CITY believes will be realized. What city will be next?

The Lawyer as a City Planning Adviser

A step which we believe will establish an important precedent in city planning procedure has been taken by the city of Bridgeport, Conn. This is the retention by the City Plan Commission of a lawyer who has made a special study of city planning, to coöperate with the Commission's expert in the preparation of a complete, workable report.

Planners who are able to give intelligent advice as to the physical work necessary for the improvement of a city must have knowledge and experience of engineering, architecture, landscape design, etc. But if they are expert in these specialties—physical planning—they can scarcely be expert lawyers as well; life is too intricate and too busy for that to be possible.

Hitherto, most city planning reports have been devoted chiefly, or wholly, to studies of physical conditions and to recommendations for improving them. Adequate consideration has not ordinarily been given to the very important question of the legal power of the municipality to carry out the physical improvements advocated. As a result the plan has been left somewhat in the air. The only method, in a democracy, to execute the plan is to decide what legal powers the city already has to do it, and, so far as necessary, to devise the legal methods which must be supplied. This is a lawyer's work. It should form a part of a city planning report, or that report will lack something of completeness.

At the end of the portion of the report written by the city planner, there ought always to be a list of definite things recommended to be done. In the drawing up of this list the lawyer should be consulted. Not much attention, perhaps, need be paid to his opinion as to whether these measures are desirable; that is for the city planner to decide—though even lawyers are sometimes endowed with common sense and civic vision. But nothing should be included which the lawyer has not been willing to vouch for as legally possible. The rest of the report is for the lawyer to write. In it he must state how each of these recommendations may be legally carried out—whether by constitutional amendment, statute, ordinance, or under existing statutes and ordinances; citing authorities to prove his statements and drafting the

measures, so far as novelty or difficulty make such citation and drafting desirable. This having been done, those in favor of any of the recommendations of the city planning expert will know just how such recommendations can be legally accomplished; and they cannot then be met with the objection, so common in this country when there is opposition from any source, that the proposition is illegal and for that reason unpractical.

In such legal work a specialist is most useful. The mass of social legislation is nowadays so great that the local practitioner, or the specialist in other fields, cannot be expected to be familiar with it and with the decisions relating to it, or able, at short notice, to draw upon the world-wide experience so useful in devising legal means best adapted to accomplish the task.

In Bridgeport, the expert of the City Plan Commission is John Nolen, of Cambridge, Mass., and the lawyer who has now been retained to coöperate with him in his final report is Frank Backus Williams, of New York. Mr. Williams is one of several lawyers whose presence at recent National Conferences on City Planning has added so much to the practical value of those gatherings; others of prominence in this group including Edward M. Bassett, of New York; Flavel Shurtleff, of Boston; Andrew Wright Crawford, of Philadelphia, and Alfred Bettman, of Cincinnati. We shall hope to see increasing use made of the services of such men by city planning bodies.

✦ ✦

A Subject for National Conferences

That the next national conferences of mayors and of chiefs of police should consider the feasibility of some agreement which will prevent the almost universal practice of giving supposedly undesirable persons a limited number of hours to leave town is the opinion of Zenas L. Potter, of the Russell Sage Foundation, whose report on "The Correctional System of Springfield, Illinois," has just come from the press. Mr. Potter points out that the shunting of hoboes and "yeggs" from one city to another and back again, which results from the "hours-to-leave-town" procedure, really gives no city any real protection, but only serves to drive young men who start out on

the road into the class of professional tramps who travel about the country plying criminal or semi-criminal means for making a livelihood. Instead of making for society's protection from law-breakers, therefore, it has exactly the opposite effect.

Attention is called to the fact that not many years since very much the same condition existed in the charities field, private societies and poor commissioners commonly shipping their paupers on to the next community, in the hope of escaping the burden of their care. In the field of charity, however, the situation has been greatly improved by what is known as the transportation agreement,* which now has 600 signers among charitable societies and poor commissioners. Under this agreement all signers bind themselves not to ship on to other communities paupers who are properly their charges, and agree, in furnishing transportation, to supply enough to take the recipients to their legitimate destinations.

Beside taking up this question, the report discusses all of the means used in Springfield in disposing of offenders, and reaches the conclusion that in many ways existing methods are not designed to protect the community from law-breakers in an effective manner. Petty fines, the most-used method, are criticised, and it is recommended that adult probation work be developed to take their place. The present city and county jails are severely condemned because they do not permit classification of prisoners, because they are insanitary and overcrowded and because prisoners are forced to spend weeks and months in perfect idleness. Development of plans which will permit upbuilding treatment of prisoners on a farm institution and indeterminate sentence and parole are recommended. The book covers over 150 pages and contains many photographs and diagrams which strongly support the argument. It deals with all phases of the city's correction work and offers many criticisms and suggestions. It is the sixth report in a series of ten which present the findings of the recent Springfield Survey, and may be had, postpaid, for 25 cents.

* Copies of this agreement may be secured upon application to the Charity Organization Department, Russell Sage Foundation, New York.

Regulation of Street Traffic

Because of the many new complications introduced into the use of the streets by the automobile, the time has certainly come to revise thoroughly the traffic methods and regulations of the days of horse-drawn vehicles. Some of the older cities, which were the first to introduce traffic regulation, have now fallen behind smaller places, because of failure to recognize the new conditions and to meet new needs.

With the advent of electricity, the street car became the fastest vehicle in use, and properly belonged in the center of the street. Passengers were in little danger when getting on and off the cars as long as horses were the only other motive power used. To-day the automobile is faster than the electric car, and the tracks logically ought to be removed from the center of the street to nearer the sides, where cars could stop and passengers could wait and get aboard in safety without the need of safety zones, causing all vehicles coming up behind to stop. As long as car tracks remain in the street center some kind of safety zone is required at car stops, and the experience of Detroit shows how effectively chauffeurs and drivers can be made to observe such simple things as painted lines on the street pavement.

The recent addition of the jitney to the already excessive street traffic of some cities has greatly complicated the problem of traffic regulation. If automobiles continue to decrease in price and the public shows a growing preference for the jitney to the street car, it is hard to tell where the resulting congestion may land us, in spite of the fact that the increasing speed of vehicles and more skilful use of them tend to offset the larger number.

The high speed of the automobile has made more urgent than ever the need of abolishing grade crossings of streets and railroads. The increasing delays at street intersections has raised more forcibly than ever the question of abolishing grade crossings of important streets with each other. The Municipal Art Society of New York recently awarded prizes for the best solution of this last grade crossing problem, and many ingenious plans were shown in an

exhibition held at the National Arts Club.

Grade crossing removal in city streets has long been seriously considered in London, where several notable examples of overhead street crossings already exist. The most striking and far-seeing application of the idea was perhaps the remarkable plan presented to the Royal Commission on London Traffic over ten years ago by Messrs. Meik & Beer, the well-known English engineers. Their exhaustively worked out proposal was to build across London from north to south and east to west two main avenues, which were to have continuous roadways with no grade crossings, with existing streets being connected up with the present street system by means of frequent ramps. This plan, in the opinion of many, would have given London an invaluable backbone of through high speed highways and rapid transit lines, the scheme being regarded as financially possible if built by means of excess condemnation.

The chief drawbacks to most of the proposed plans for overhead crossings of streets, for double-deck streets, and the like, are the excessive cost, the opposition of local business interests, and the doubt if any really substantial increase in street capacity would result, or any increase at all commensurate with the price paid. On important thoroughfares in large cities the most hopeful line of approach for reducing traffic congestion appears to lie in more scientific methods of traffic regulation, and hence the importance of the newer methods employed in Detroit, Cleveland, Toronto and other progressive cities. By the use of semaphores, or other improved methods of signaling; by facilitating the left hand turn; by instituting safety zones; by removing car tracks to nearer the sides of the streets; and by reducing the interval between traffic changes to a minimum—by these and other methods street capacity and speed of vehicles may be increased sufficiently to last for some time.

If the use of the automobile continues to increase at its present ratio, even these measures of relief will not long prove adequate on certain important streets in the largest cities. But that is a problem for the future to face!



Traffic Regulation in Detroit and Toronto

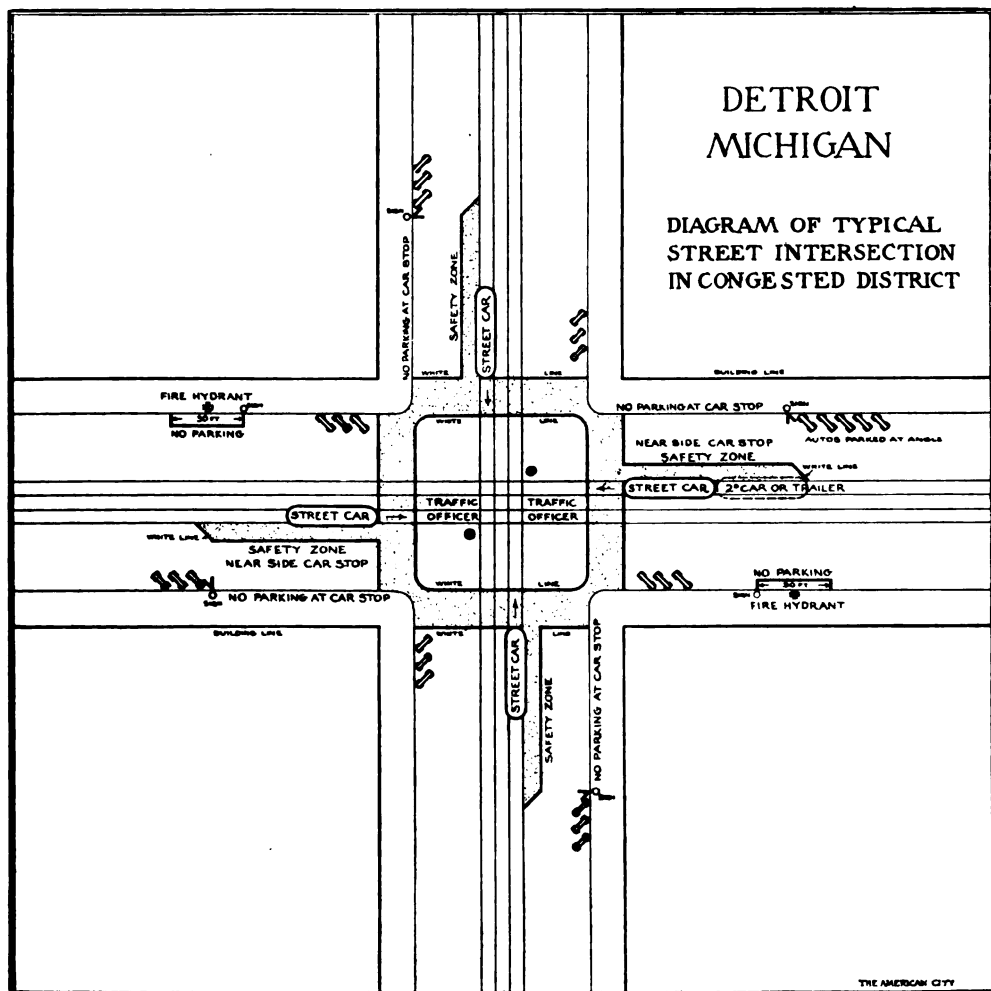
By John P. Fox

Transit Expert to the Committee on City Plan of the City of New York

WHILE traffic regulation in America originated in New York, and that city for a long time kept the lead, other cities have since introduced such regulation, and, by taking advantage of previous experience, have naturally been able to improve a good deal on the original rules and methods still largely adhered to in New York. To-day, in the writer's opinion, Detroit has perhaps the best traffic regulation in the country, which is not surprising for the center of the automobile industry.

The success of Detroit appears to be largely due to a constant attempt to improve existing regulating methods, and to

treat the subject as a science, whose principles should be applied to fit each street problem. One of the striking innovations is the use of semaphore signals at street intersections, the apparatus consisting of four revolving blades, set at right angles at the top of a light portable standard, the blades showing the words "Go" and "Stop" on alternate faces, painted appropriately green and red. At night the arms are surmounted by a signal lantern of the railroad type, with red and green lights. Requiring only a quarter of a turn at a time, the semaphore arms are very quickly and easily turned by the traffic officer, who is thus encouraged to

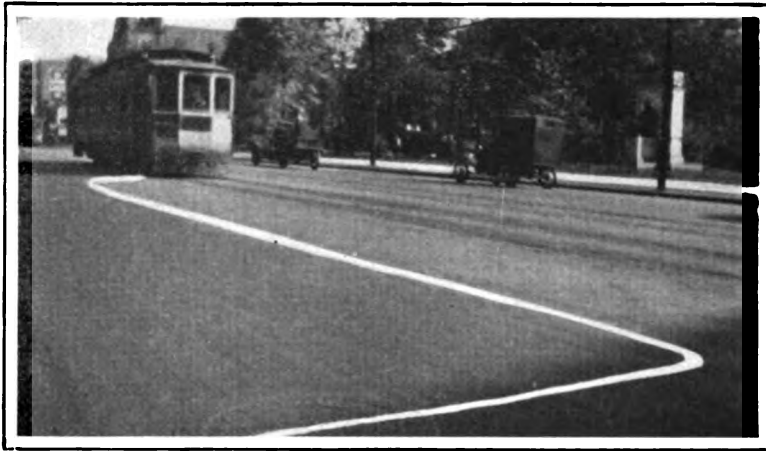


change the direction of traffic frequently, and so to reduce the delay to vehicles, which is often so annoying and so unnecessary.

The safety zone idea has been very thoroughly worked out in Detroit, over a thousand zones being in use to-day. These consist of white lines painted on the pavement to indicate where people should cross the streets, where they should wait for cars, the location of fire hydrants, spaces for parking automobiles, etc. The use of these white lines has had a marked influence in making chauffeurs and pedestrians exercise more care, and has greatly reduced street

tennis court marker, with a three-inch paint brush inserted in the distributor, the apparatus being carted round on a motor truck.

The near side car stop is in use in Detroit and at each stop a safety zone is marked off by a white line about 60 feet long and 6 feet wide from the car steps, or $7\frac{1}{2}$ feet from the outer rail, extending from the nearest crosswalk back to where the rear step of the car comes. In this safety zone persons can stand or walk or get on and off cars in perfect safety, even in the most crowded streets. For while such a zone is occupied, no vehicle dares to run over the white line,



SAFETY ZONE AT NEAR-SIDE CAR STOP, DETROIT

accidents. People no longer cross between the blocks as they used to, for one thing, about 90 per cent of the accidents from this cause having been eliminated.

The keeping up of the white lines on the pavement is not as costly or as troublesome a matter as might be expected. Frequent marking is naturally required on streets with heavy traffic, but on other streets the lines will last for months. The paint used consists of cheap white lead, whiting, gloss oil, gasoline and ultramarine blue.* It is applied to the pavement by means of a lawn

and chauffeurs are now so well trained in observing the rule that posts and signs are seldom needed as a warning. Except on very narrow streets, automobiles are permitted to pass between a car stop and the curb, but only at half the legal speed. In order to keep this space clear, no vehicles are allowed to stand along the curb for a space of 75 feet opposite car stops. When streets are too narrow to provide both safety zones and passing spaces, vehicles must then stop 6 feet back from a street car at rest.

Safety zones were at first indicated by traffic signs with red targets properly inscribed. These signs were frequently struck by vehicles, as they could not always be seen, and several damaged radiators were the result. As chauffeurs became more careful, such conspicuous signs were hardly needed, and they also were in the way when vehicles wished to pass over a

* The Police Department of Detroit has courteously furnished the following formula for the paint used in marking the safety zones; 50 pounds lowest grade white lead; 175 pounds whiting; 6 gallons gloss oil; 20 gallons common gasoline; 1 ounce ultramarine blue. Thin the white lead with about 2 gallons of the gasoline. Add the balance of the gasoline and stir thoroughly. Add the whiting and mix well. Then add the gloss oil. Thin the ultramarine blue with about one-half pint of gasoline and add to the mixture, stirring thoroughly. The above materials will make about 35 gallons of paint at a cost of about 24 cents a gallon.



DETROIT STREET SEMAPHORE SET FOR THROUGH TRAFFIC



DETROIT STREET SEMAPHORE SET FOR CROSS TRAFFIC



CADILLAC SQUARE, DETROIT, A PUBLIC PARKING SPACE

safety zone at times when no cars were stopping and no passengers were waiting in the street. So the signs were removed and their place taken by a mushroom-shaped base of iron, weighing about 55 pounds, secured in the pavement by a spike, the words "Safety Zone" being cast in the top of the metal. The base is corrugated on top and offers no obstruction to vehicles like a sign.

For the purpose of making clear to the public all the special traffic rules in Detroit as they apply to each local case, various kinds of street signs are used, each one having painted on a target at the top a simple but clear explanation of what is meant. This method of instruction is much more reasonable than trying to put every regulation into an unchangeable ordinance, and then to expect every chauffeur and driver to remember the rule for each place. The Detroit ordinance is a very broad and general one, giving the Police Department wide discretionary powers without the continual need of new legislation, allowing constant progress without any delays or hindrances. Again, traffic signs in other cities are often too obscure, with perhaps merely an arrow on them meaning nothing to the uninitiated. In Detroit each problem is studied and then appropriate signs are painted to suit the need of each place and to explain whatever rule is made.

The Detroit signs are used to mark safety zones; locations of hydrants; whether to park automobiles parallel to the curb or at an angle; time limit on parking; places where no parking is allowed, as in front of theaters and car stops, and along certain congested blocks; dangerous street car intersections; warning to lock cars on leaving them; public automobile stands; the direc-

tion of traffic on boulevard divisions and one-way streets, etc.

The troublesome problem of the left-hand turn has been solved in Detroit. Vehicles wishing to make the turn wait in line near the center of the street, and are not allowed to mix in with the other traffic as in New York, where unregulated turning sometimes blocks all traffic for a time. When the traffic direction is changed in Detroit, then the waiting vehicles make the left-hand turn before the cross traffic starts to move, thus

getting quickly and completely out of the way. One little improvement is needed here in the Detroit plan, viz., a change in the old rule that a vehicle going to the left should pass beyond and around the center of the intersection. Instead, the turn to the left should be made just before reaching the

center of the street, this plan enabling two sets of vehicles, coming towards each other, to make the left-hand turn at once without blocking each other as they do under the present rule. Right-hand turns can be made at any time in De-

troit, another improvement tending to keep traffic moving.

In some cities persons who prefer to drive their own cars or cannot afford a chauffeur, are deprived of riding to and from business because no public parking space is provided where they can leave their cars during the day. While this deprivation may appear to have an advantage in reducing the use of the streets, it is a question whether it really does so, because the automobiles of those who are driven to business must immediately go back to their garages, using the same street four times a day at the rush hours, against twice for cars stored in the business section. Detroit provides special public parking space, Cadillac Square holding no less than 300 automo-



SOME OF THE DETROIT TRAFFIC SIGNS

biles at one time, arranged in four rows, with three passageways for getting in and out of the Square. Vehicles can also be parked parallel to the curb in two rows on each side of the Square, but only for an hour at a time.

In the enforcement of the Detroit traffic regulations, Police Commissioner Gillespie has shown much good sense and an occasional touch of humor, which has helped in giving publicity to the work, and in teaching the needed lessons to offenders. Automobiles found parked in forbidden places were sometimes towed away to Cadillac Square, where they were kept until reported stolen by the anxious owner, who, on recovering his car, generally remembered what to do another time. Cars with dazzling headlights have been held up at night and the offending lamps dimmed on the spot with white paint. Such measures, however, are no longer needed, and now the chief question is where to improve and extend the system.

Toronto, Canada, has a rather novel innovation in traffic regulation, which was adopted after studying the practice of other cities. In Toronto there is no regular traffic squad, but every man takes his turn for two weeks at a time, no officer being permanently stationed at the same corner, as in other cities. This might seem a disadvantage, but it is clearly an advantage when one knows the reasons. It is done to promote efficiency by keeping traffic men from knowing the regular users of a street too well, and showing partiality as a result, and also in order to prevent an officer from feeling that any special post belongs to him and that he only knows how to handle traffic at that point.

Now these last things which are avoided in Toronto by constant rotation in traffic service are some of the chief weaknesses

found in traffic regulation in other cities, and the Toronto plan should be carefully considered by other localities. One of the most common and serious defects in traffic regulation is changing the direction of traffic too seldom. Officers fall into the habit of taking more and more time before blowing the whistle, often waiting for just one more vehicle in the distance to come up, with the result that crossing delays are getting to be more and more serious in the older cities. As the delays to vehicles vary directly with the frequency of changing the direction of traffic, the need of the most frequent possible changes is apparent. In Toronto, with even a heavy traffic of vehicles and street cars, a frequency of 15 seconds between changes has been found; while on Fifth Avenue, New York, it averages nearly a minute sometimes, varying largely with the habits of individual officers. One Fifth Avenue officer was found to change the direction every 22 seconds, an almost ideal frequency, while another man at the same place, with less traffic, averaged over 50 seconds, causing more than twice the delay to all vehicles.

The keeping of one officer at the same corner certainly does encourage a false idea of importance and cause the showing of favoritism with some traffic men; also resulting in the habit of talking too much to friends and regular patrons of the street crossing, instead of watching vehicles and pedestrians. It obviously certainly does not tend to promote the coöperation of chauffeurs with the police department in reducing speeding and street accidents to have them held up for a minute or two every time they pass a certain officer. And so the Toronto plan of rotating men and assigning them always to different corners could well be added to the efficient methods of Detroit.

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Safety-First Traffic Signals in Portland, Ore.

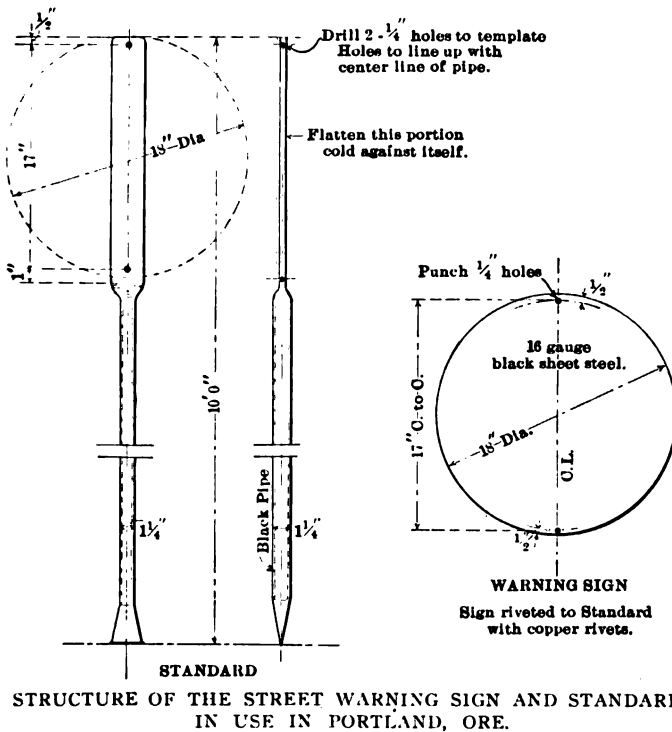
UNDER the direction of A. S. Kirkpatrick, traffic expert of the city of Portland, Ore., there has been conducted since August, 1914, an extensive Safety First movement.

At dangerous points throughout the city 375 warning signs have been placed. This was done after a very careful study of road conditions, and from time to time additional signs are placed where a need of them has developed. The office of the Traffic Engineer has received requests from more than fifty residents for signs to be placed at dan-

gerous points near their homes.

These signs give warnings of sixteen different kinds, calling the attention of drivers to dangerous conditions. They were at first painted on 16-gauge black steel, but are now being painted on galvanized American ingot iron of the same gauge. They are 18 inches in diameter; the outer circle, of red, contains the warning, telling the nature of the obstruction or danger; the 6-inch center disk is of green, which is the International Safety First color. The signs are mounted on a 1¼-inch red standard placed in con-





ger points in Portland on account of traffic conditions and narrow, irregular streets with reverse curves, bad turns and unsafe corners. Steep or otherwise dangerous grades and crossings and untrustworthy bridges are also marked, and drivers are warned to proceed carefully near fire stations and schools and not to sound signals or operate with open exhaust near hospitals. Because of their position and the shade of red used, the signs are conspicuous both day and night. By actual observation they have proven a great assistance in the prevention of accidents.

crete, on the right-hand side of the roadway approaching the obstruction or turn. After a number of tests, it was decided to follow a fixed rule in the placing of signs—setting them 50 feet from the point of danger, except on grades, where they are placed on top. The top of the dial is 8 feet above the ground.

Mr. Kirkpatrick designed the signs, and they are painted by the municipal sign painter of Portland at a cost of 65 cents for each disk. The total cost of each sign, including the installation, is \$2.31.

There are many dan-



A TRAFFIC SIGNAL ON A STEEP, NARROW ROAD

Regulating Street Traffic in Cleveland

By Alfred A. Benesch

Director of Public Safety, Cleveland, Ohio

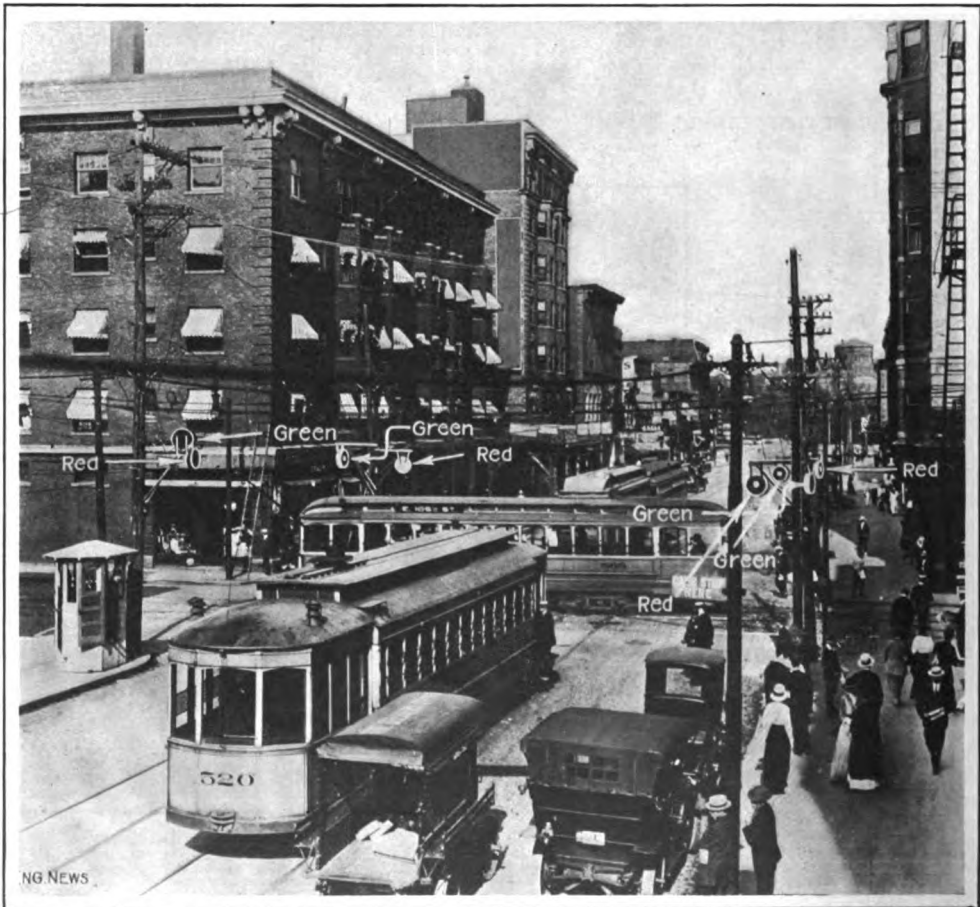
WITH the rapidly increasing number of automobiles, trucks, motorcycles, etc., traffic problems have not only taxed the police departments of many cities but have created an urgent need for standard methods of street traffic regulation.

At many of the busiest street intersections in Cleveland it has been necessary to station officers during the rush hours of the day, and one officer from early morning until late at night. These officers in the middle of the street do not displace the regular traffic patrolmen, but are extra officers demanded by congested conditions.

Traffic officers when stationed in the cen-

ter of the street are working under a serious handicap. From this position it is impossible to see all of the traffic, and frequently it is not possible to see half of it, hidden as it is by street cars or vehicles. Under these conditions uncertain signals are extremely dangerous to the general public and cause serious delays to the emergency vehicles.

After much experimenting with arm and whistle methods of signaling from the center of the street, with the usual results, we arranged with the American Traffic Signal Company of our city for an experimental installation of their interlocking high reflector signals at the intersection of Euclid Avenue and East 105th Street. The installation



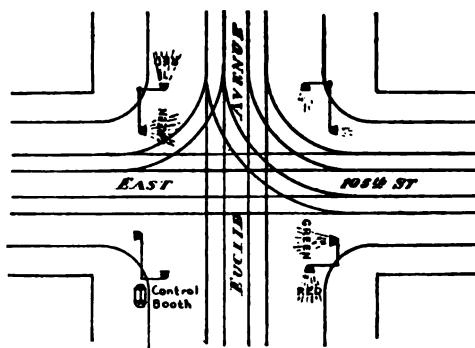
HOW THE INTERLOCKING HIGH REFLECTOR SIGNALS WORK

was made on August 5, 1914, and has been in continuous operation every day since that time.

Both of these streets have double tracks, on which there is heavy street car service between the East End and the Heights district and the downtown section, as well as between the north and south sides. They are in the heart of the East End shopping district, where many of our most substantial business firms have branch houses. A recent count taken by an enterprising company showed that more pedestrians pass this particular corner than any other corner in Cleveland. The street railway transfer traffic between the two lines is heavy, and a great majority of the vehicles entering the East End parks and boulevards pass through or turn at this intersection.

This modern signaling system takes the traffic officer out of the center of the street and places him at a corner of the sidewalk and at an elevation from which he can see over the heads of the crowd—and see in all three directions at the same time.

Electric light signals are suspended at the street intersection below the trolley span wires and about 14 feet above the street level. Each approach to the street intersection is provided with two lights (one red located on the near side, indicating "Stop," and one green located beyond the street in-



LOCATION OF SIGNALS AND BOOTH

tersection, indicating "Start"). These signaling lights are controlled by the use of electric switches conveniently mounted and so arranged that the traffic officer can operate them by hand from his booth or switch box.

All the principal signals are operated by the same switch. When traffic is closed in one direction it is automatically opened in the other direction. Each light is equipped with strong reflectors and with extension storm hoods, so that all lights are efficient both night and day.

The traffic officer, taken out of the street and given absolute control of the traffic from a booth on the corner, is stationed where he can dispense information and regulate traffic without danger and confusion.

We installed in the booth the fire alarm signaling instruments upon which alarms are received direct from headquarters at the same instant they are repeated to the engine house, thus keeping the traffic officer in instant communication with the Fire Department headquarters. Thus, the location of all fires and the routes to be taken by fire apparatus being known in advance to the operator, traffic is cleared almost instantly.

The control station is equipped with a master emergency switch which automatically shuts off all green lights and flashes all red lights in the system. This switch also sounds the fire alarm gongs. When this switch is thrown on, the traffic officer goes to the center of the street, clears out any congestion before the emergency equipment arrives, and gives firemen the proper signals when they approach his crossing, thereby avoiding all possibility of collision between two or more pieces of fire apparatus—and such collisions heretofore have not



TRAFFIC OFFICER'S BOOTH

been of infrequent occurrence.

The system also provides for telephone connection with Fire and Police Headquarters, thus keeping the headquarters' officers of both departments in constant touch with the officer in booth.

Traffic officers in the center of the street are subjected to many hardships. We have had a number of serious accidents to traffic officers thus stationed. The men are in constant danger, and accidents must inevitably lessen their efficiency as regulators of traffic. The booth furnished is electrically heated in winter and gives the officer shade in summer. This increases the efficiency of the traffic system.

One year's experience with this system, which was installed with a view to directing the vehicular traffic only, has convinced me that the public is pleased with its operation, as it makes for greater safety, speeds up traffic, and largely controls pedestrians in their movements across the street. I have found to my great satisfaction that the system has in a great measure succeeded in doing what the traffic officer stationed in the street was unable to do—edu-

cate pedestrian traffic to follow vehicular traffic.

The system has been endorsed by President Stanley, of the Street Railway Company, by Street Railway Commissioner Peter Witt, by the Cleveland Automobile Club, all the Cleveland newspapers and the Committee on Public Safety of the Cleveland Chamber of Commerce. This committee submitted a report on the operation of the device. From this report, which was endorsed by the Board of Directors of that organization on March 25, the following paragraph is quoted:

"Your committee has already endorsed the traffic signal device now installed at Euclid Avenue and East 105th Street. It recommends that the Chamber of Commerce, through its Board of Directors, recommend to the Director of Public Safety the installation, as the finances of the department will permit, of efficient automatic traffic signal systems at the principal street intersections of the city."

I hope that in the near future the city will be in a position to make a substantial appropriation for a general installation as suggested in the Chamber of Commerce resolution.

Street Traffic Recommendations

At a recent meeting of the Street Traffic Committee of the Safety First Federation of America, it was decided to recommend to the Federation that the following be adopted for general use:

1. To have education and special instruction of policemen before assigning them for traffic duty.

2. Standard code of hand signals to be used by traffic officers.

3. Fixed locations for traffic officers at intersections to be distinctly marked.

4. Elimination of glare of head and side lights.

5. Use of muffler cut-outs to be prohibited.

6. Standardization of left-hand turns at intersections.

7. Near-side stop for street cars.

8. Rear lights on all horse-drawn vehicles.

9. Elimination of steps on all horse-drawn and motor trucks.

10. Standard size, color, design and means of attachment for all street traffic signs, including school, hospital, church, safety zones, fire hydrant, railroad and street railway crossings, alley, mail box, playground, crosswalk, parking, etc.

11. Designation of safety zones and crosswalks as embodied in the Detroit plan of painting.

12. Education of the public to use crosswalks at intersections and authorizing police departments to control pedestrian travel as provided in Section 2 of the Detroit traffic ordinance.

13. Standard traffic ordinance and code of regulations for adoption by all cities.

14. Licensing of drivers or operators of all motor vehicles.

15. Exclusive use of siren whistles on police and fire vehicles.

16. Standardization of accident reports by municipalities.

17. Chain guards on vehicles driven by side chains.

Architecture in Parks

By George Burnap

Landscape Architect of Public Buildings and Grounds, Washington, D. C.

EDITOR'S NOTE.—*This is the third installment in a series of articles from the author's forthcoming book on Park Design. The fourth and last installment will be on the subject of Park Utilities.*

THE demand for building sites within park areas is much greater than would be generally supposed. There are demands for auditoriums, armories, gymnasiums, art museums, natural history rooms and public buildings of all kinds. In one of the most recent books on city planning there is made this recommendation:

"Among the edifices which may properly be placed in the parks are municipal banquet halls. In such halls the various municipal and semi-municipal functions could be held, instead of in the hotels as at present. Distinguished guests could be received in more dignity at such banquet halls than in private hostelryes."

It may be seen from this that, although much has been written adverse to sacrificing parks to buildings, the tendency to project buildings into park areas is not yet dead—its tail still wriggles. Central Park in New York, especially, has been overrun with innumerable projects for the introduction of edifices within its domain, from the suggestion in 1872 that all religious sects should be invited to build places of worship upon it, to recommendations within recent years that sites be granted there for academies of design, art museums and exhibition palaces. New York City, however, has proven itself a St. Patrick in respect to public buildings in parks, and can be depended upon to crush the idea of a municipal banquet hall also should it seek admission there.

Parks to Possess Architecture; Architecture Not to Dispossess Parks

"A park is to furnish relief and repose of mind which natural scenery brings to those who are wearied by city sights and sounds." From this it would appear that no building of any kind should be permitted within park domains as jeopardizing the effect of the landscape and dispelling the illusion of "natural scenery." Parks, however, are not merely compositions of scenery, but, as has

been pointed out, are for utility as well as for beauty. Buildings in that sense frequently are very vital to parks. If, therefore, there is need of a building in a park for some reason of service or for some requirement of the park, there should not be the slightest hesitation in introducing it there. The converse, however, is equally true: if a building is not needed for some reason of service or to satisfy some need of the park, it should never be granted admittance. For example, an edifice for dining "distinguished guests" is not requisite to a park, for the service can be performed equally well elsewhere and therefore such a building should not be allowed there. The proper relation between buildings and parks must be that of reciprocity and mutual need, each the complement and supplement of the other.

The mere fact that a building is public does not justify its admission to and absorption of park areas. Six years ago there was erected in one of Washington's parks the Court of Appeals building, the interrelation of which with park development, the purpose for which the park was set apart, still remains a mystery. Two other buildings, however, had already been erected within that park, and precedent made the way easy. The new building, to cap the climax, was located in such a way as to obviously require the addition of a fourth building for the completion of the architectural composition, showing how the inch becomes the ell. City halls and court houses seem to be the greatest sinners in this respect, and they lead the way for an army of other public buildings for which appropriations are made with no provision for site.

An infringement of architecture on park domains which cannot be too strongly guarded against is that similar to the case of the Century Theatre in New York City, in the building of which plans were prepared



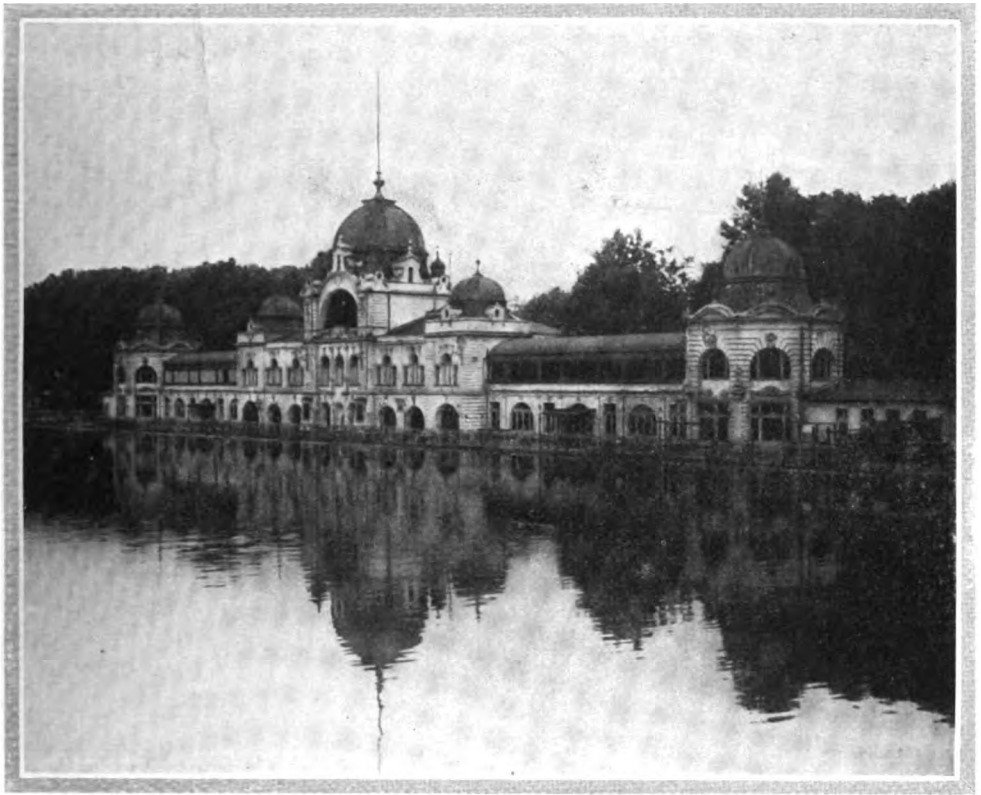
Immigrant types of architecture are admissible in parks sufficiently large to amalgamate them
 THE CHALET, PUBLIC GARDENS, ROME

for appropriating that section of Central Park immediately before it for the development of a formal foreground to the building. Although this might seem permissible in the case of so large a park, as a general proposition it would be extending the pale of the city within the park instead of shutting it out, and a multiplication of the device at intervals along an entire boundary would sensibly decrease the apparent area of any but the most extensive of parks. In the case of small parks such suggestions are insidiously dangerous, for, in designing or redesigning a small park to bring it into keeping with some particular building facing upon it, the initial purpose of the park often becomes lost and forgotten in the shuffle. The instigator whose undermost purpose is to improve the appearance of the building in which he is especially interested, usually avows that parks must not be considered as separate units, but should be designed in relation to the city and to their surroundings. This is true, but not in the implied sense of relating to a particular

building; for a park, to express its civic function, must eschew partiality toward any one of the buildings facing upon it which would seek to convert it into a forecourt or plaza, and thus abstract it from the genuine park areas of the city. Rather should the precedent of foreign cities be followed, where ample grounds are provided about their semi-public buildings and developed in park character—as, for example, in the public flower gardens and play areas about the Alta and Neue Pinakothek in Munich.

Commensurate Areas Should Be Substituted

At the present time several of our cities are launched on extensive replanning schemes in the execution of which, as in the Washington Mall scheme, the integrity of long-established parks is threatened to make way for civic centers or other architectural developments. The inexorable dictum that park areas should never be converted into sites for public buildings should not be overruled even in this case; but, in order not to block the carrying out of such



A park building for tennis and indoor sports designed in exposition style and located close to the water's edge for view and composition—an example of pertinent architecture contributing to the beauty of a park

BUDAPEST PUBLIC PARK, BUDAPEST

comprehensive development as may be for the welfare of a city as a whole, the give-and-take policy may be inaugurated. The idea to be maintained is that there shall be no diminution of park area, and it is therefore recommended that in the ratification of a new city plan there be inserted the conditional clause as follows:

"That commensurate park areas shall be acquired to offset such present park areas as may be taken for building purposes in the new plan and thereby become lost to the city as parks."

Such a clause will protect the park area of a city without jeopardizing the best development of the city plan.

The character of architecture in parks will be determined somewhat by the city environment, especially when the park is of such limited area as to bring it within the influence of street architecture. Where, for various reasons, the surrounding buildings may not be neutralized by planting, buildings required in the park should show a cer-

tain similarity or harmony of style and material with those in the adjoining street. This will be found to be a very difficult condition to meet, and, like an ideal, may be attained but rarely. Instances have occurred, however, when it has been possible to match the color and texture of a park building to that of the architecture immediately across the street from it with nice effect, and there have been other instances where the result would undeniably have been better if some such effort at architectural harmonizing had been made.

Park Architecture Should Be Expressive, Not Fanciful

As a general rule the architecture of a small park should be kept as plain and inornate as possible, without becoming austere or uninteresting. The impression that any fantastic type of architecture may be discreetly introduced in park design is fallacious; and the architect who conscientiously



America at present holds promise to lead in uniquely park architecture

THE REFECTORY, HUMBOLDT PARK, CHICAGO

tiously studies this problem, bearing in mind that the architecture which he creates must be to serve the interests of the park and in that sense be subservient or incidental to the general aspect of that park, will not find a great deal of liberty for dabbling in fantastic styles: he will come to realize that there are principles in landscape design, perhaps previously unfamiliar to him, holding him within surprisingly definite limits. An entire park design may just as surely be unbalanced or disrupted by irresponsible design of a component building as may an architectural façade be destroyed by irresponsible design of an entrance door or other unit of its composition. Architecture of small parks should be entrusted only to architects of park experience or in consultation with the landscape architect or park designer in charge of the park development as a whole.

More liberty may be granted in the architecture of large parks. There the buildings are beyond the influence of street architecture, and therefore may be designed as units

in themselves, or as relating only to other units of park architecture. In a formal landscape scheme the character of the architecture component to it often will be arbitrarily determined, but free standing buildings, such as pavilions, tea houses and park restaurants, may be left quite to the will of the architect—provided, of course, that he is a designer of discretion. It should be again emphasized, however, that a “playful” type of design commonly considered suitable for park work does not mean fantastic or privileged architecture. Golf and tennis houses and the buildings devoted to the conveniences of park sports should show special dignity of design, thus visually controverting the old-fashioned idea of their inconsequence and triviality. The large boat houses and buildings for sports in the parks of Budapest are imposing stone structures. The field houses of the recreation centers in the Chicago parks are examples of well-expressed park architecture. It is disappointing that the English have not developed their park architecture beyond the



Cottages for the workmen in large parks possess possibilities of utility and picturesqueness

WORKMEN'S QUARTERS, PUBLIC PARK, MILAN

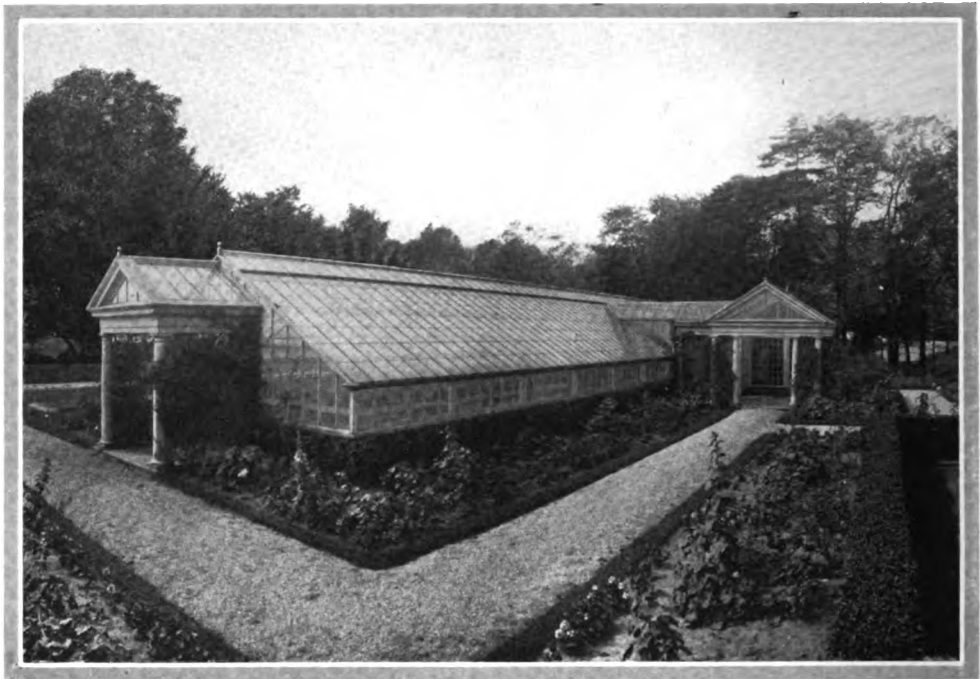
makeshift stage, for their leadership in domestic architecture might extend to this field and result in beautiful combinations of park buildings and gardening.

In addition to other park buildings, many of our cities have provided residences for the park superintendent, head gardener, and other heads of the park force, either by erecting new buildings or by retaining buildings which existed on the property when originally taken over for park purposes. It is a question whether it is even good business policy to have such buildings a part of a park system. If such park officials are worthy of their hire, it is unfair to require them to accept a portion of their remuneration in this way, for many men feel it in a sense demeaning to be stamped by their living quarters as a part of the park system rather than as governing it. On the other hand, mediocre men in these positions are frequently receiving a higher remuneration than would be approved were their rate of compensation expressed in such a way as to show to the auditor or the taxpayers

an actual accounting. In either case it is extremely questionable whether park lands should be devoted to this purpose, for frequently quite large areas about such residences are actually fenced off as private, or at least given so strongly the character of a private estate as to tangibly detach them from park areas and, in that sense, isolate considerable portions of the park from public use.

Cottages for Park Workmen Instead of Residences for Officials

A suggestion, on the other hand, which might be given tentative consideration is the matter of providing cottages or community houses for park employees. The objection that this would entail even greater sacrifice of park area than the residences of park superintendents and other executives is not so vital in this case, because quarters for the workmen could be erected in what for park purposes would be considered the least desirable portion of the park, quite the opposite of the location selected



Courtesy of Lord & Burnham

Propagating greenhouses for parks may be rendered slightly and decorative without becoming exalted into exhibition houses

GREENHOUSE ON PRIVATE ESTATE

for superintendents' houses, and would not require large private lawn or garden areas about them.

Several advantages would be derived from such an innovation: it would bring about a personal and permanent interest of the men in the park work; it would tend to increase their efficiency by improving their living arrangements; and, by making possible a certain amount of discipline in a park force, there could be built up a working organization in place of the frequently haphazard collection of poorly selected and often poorly managed workmen. There might eventually be developed a considerable esprit de corps which would raise the morale and standard of the "job," and take the park force out of the category of a political dumping ground. Though free living quarters might look like a "plum," they would be under official discipline and general public inspection to such an extent as to offer no sinecure for ward-heelers. If in addition, as in the parks of Torino and other Italian cities, the park force were uniformed much the same as are our "White Wings," but preferably in gray or brown, the ap-

pearance of the men at work in the park would be improved and, because more easily discernible, "loafing" among them would become less prevalent.

The appearance of a group of workmen's cottages, with a community house for the unmarried men, could be made a very picturesque element in a park scene. On a large country estate at West Park, on the Hudson, small houses for the workmen are arranged about a court yard in a serviceable and yet decorative fashion. There is also a row of very quaint little houses ranged along one side of the Boboli Gardens in Florence which really add to the charm of that portion of the grounds. In the Public Park at Milan there are several workmen's cottages included in a serviceable portion of the park, hidden away in an interior court yard. The photograph, taken only after much difficulty in finding the way within, shows a decided attractiveness which need not have been so scrupulously concealed. Such a settlement could be developed in a park system with the threefold accomplishment of increasing efficiency in park maintenance and upkeep, of offering



An example of service building, trim and commendable in its architecture, which needs planting for park character rather than for the usual concealment

CARROLL PARK, BALTIMORE

a city opportunity to experiment in a small way with the social problem of housing workmen, and of adding a feature of interest to the park design. The entire project is, of course, one which may be taken up only by cities of considerable size with somewhat extensive park areas at their disposal. The idea is advanced by the author as a suggestion for discussion and further thought rather than as definite recommendation, in which form he has ventured to present the other material of the book.

Service Buildings to be Designed, Not Concealed

All park buildings should be given equal attention in architectural design, those for what is known as "service" receiving quite as careful study as others of the park. The intent should never be to slight the design of a building with the excuse that it is intended merely for service or is to be concealed. A nicely designed service building may be to quite as artistic purpose in a park as any other part of the development, and

service buildings are rarely completely hidden. It is thus in meeting the park requirements, in obtaining beauty without sacrificing economy, that an architect's ability may be put to a greater test than in the pursuance of his usual architectural practice. A good example is the service building in Carroll Park, Baltimore, which is creditable in form and detail; there is no need to conceal its existence as in the majority of cases, and such planting as may be added later will be for embellishment and setting—and not for screen.

Greenhouses, in the same way, an absolute necessity in the maintenance of any park system, should be availed of for park interest, rather than be considered merely as a part of the working equipment of the park. The possibilities of greenhouse construction may be seen in the accomplishment along this line by private estates throughout the country, and there is no logical reason that artistic greenhouse design should be restricted to private work. There are ample examples of large display

greenhouses in connection with parks and botanical gardens, both in this country and abroad, but the practical greenhouses, a necessary part of the regular propagation work in park maintenance, are rarely made the most of in themselves as a feature of park interest. Too often it becomes necessary to keep the greenhouses for park systems *sub rosa* to protect them from politicians who would make personal demands upon them; or, because they have already lost their function to the extent of becoming cut-flower conservatories in place of propagating houses, it is considered imprudent to reveal to the general public just what sort of material is being grown in the park greenhouses, or to what purpose it is being put.

In the design of park architecture it should be urged that existing examples of park building, however satisfactory they may appear in parks of other cities, should never be adopted except as a parent type; in one instance the original designers were required to prepare a sort of stock pattern of building which, with slight modification, could be made to fit several sites, thereby precluding the possibility of the best indi-

vidual design. Transplanted architecture often leads to incongruity of style; also mistakes in plan frequently reveal themselves after a building is in use, and a close copying of the design by other cities will result in a repetition of these same difficulties. Such examples as may appear eminently satisfactory should be accepted merely as a model or type from which further study in reference to local conditions can frequently evolve a more applicable design.

All buildings should emanate from and be the result of park conditions, designed in furtherance of park interests. After it has been determined that a building is imperative to the welfare of a park and that its presence within the park domain is for that reason justifiable and pertinent, ample attention should be given to its design, that it be a credit to itself and a credit to the park. If it is admitted, on the one hand, that lands dedicated to park use should not be desecrated by the intrusion of promiscuous buildings, it is doubly sure, on the other, that legitimate park buildings should not be left in promiscuous hands, lest irresponsibility in their design militate unjustly against their presence.

Housing England's Submerged Tenth

By Madge D. Headley

Secretary, Tenement House Committee of New York Charity Organization Society

IN making a study of the housing of any city or country, one immediately arrives at certain obvious conclusions. Tenement houses or self-contained dwellings, land-overcrowding or open spaces, plumbing systems and fire hazards, cheerful amenities or drab dreariness, unnecessary miseries or practical conveniences—the facts are visible and easily ascertained. With equal facility one gets an idea of the varying standards of housing among different kinds of people, and what they can buy with their rent money.

But the effect on housing problems of the more subtle factors of building and health laws and their enforcement, of land tenure, of rates and taxes, of available houses at fair rentals, of speculative building, of the relation between wages and rents—these are the questions not so easily answered.

Housing in England presents definite answers to the first obvious questions. It

houses its working people in cottages, and has definitely made its decision against huge multiple barracks, even in its cities, except as a stop-gap. In the municipal housing schemes of Liverpool and London, which health officers admit are a forced attempt to solve a hard problem and not a hopeful experiment on advanced lines, the newer schemes include a number of self-contained cottages along with the tenements. When it was found that to rehouse all the inhabitants of an insanitary area would compel the erection of huge barrack tenements, an amendment to the law was sought and made, so that now only 50 per cent need be rehoused on the same area.

English housing workers have set as their standard for a normal healthy home for a workman's family a self-contained cottage, with three bedrooms to permit proper privacy for the parents, the boys and the girls; a large living room; a parlor if pos-

sible for the sake of self-respect; separate water-supply, bath and toilet; and most emphatically a bit of ground big enough for a garden.

Mr. John Burns sums it up:

"Thirty years ago there used to be a school of reformers whose idea of progress was, roughly, this: Public-housing the men, warehousing the women and children, and work-housing the aged. But there is a new school of reformers of which we are all pupils and students to-day, and it stands for more private houses, better houses, cheaper houses, and not houses at charity rents—because charity rents, like the indiscriminate distribution of out-door relief, are only a bonus in aid of lower wages, long hours and lowering the standard of comfort for all."

Because cottages are the prevailing type, the term "land-overcrowding" does not express quite the same meaning that it does with us. There is a serious problem of room-overcrowding due to the flocking of people to cities. But nowhere in England will one find the tremendous land-overcrowding of New York, with its solidly built up blocks of six-story tenements housing two and three thousand people to the acre. The worst conditions in English cities more nearly approximate those in Chicago, with its three-story tenement houses. Nettlefold speaks of the model by-laws which permit fifty-six separate houses to an acre in towns as not only failing to prevent, but actually encouraging, land-overcrowding, with a corresponding increase in the price of land.

The English health authorities, because of the prevalence of the cottage system, do not have to solve some of the problems which many American cities are facing. The difficult task of getting a little light and a modicum of ventilation into interior rooms does not bother them, for they have practically no interior rooms. The English love for a single-family house has stood as a bulwark against the deep, high tenements common in Scotland, Germany and France, as well as the United States.

On the other hand, housing problems in England involve several constant factors which health officers must consider and which are absent, or only sporadic with us. Briefly stated, they are: an estimated half a million of unskilled laborers, most of whom have dependent families who must live on subsistence wages, and with small chance of improvement; a house famine

which is not confined to localities or certain rapidly growing towns, but is common both in urban and rural England; a large English-born working class which has not yet been roused to the great importance of healthy, decent homes; "insanitary areas" of filth-saturated, vermin-infested houses, without adequate open spaces, sanitary conveniences, or even common necessities.

To determine the effect of these factors on the housing problem is much more baffling than the obvious ones of cottages, tenements, garden cities and coöperative housing schemes. It is these factors of casual labor and house famine which largely explain the building of municipal tenements; the laws for demolition of insanitary areas; the various powers given to municipalities under the "Housing and Town Planning Act." Indeed, the changes in titles in the various acts dealing with housing reform are a curious commentary on progress in England. The first tentative bills which followed the efforts of Lord Shaftsbury when he called attention to the "disgraceful state of affairs" were called "*The Common Lodging Houses Act*," 1851, and the "*Labouring Classes Lodging Houses Act*," 1851, supplemented in 1855 by certain powers embodied in the "Nuisances Removal Act." In 1866, fifteen years later, the passage of the "*Labouring Classes Dwelling House Acts*" marked an advance, and in 1868 the title was broadened to cover "*Artizans and Labourers Dwellings Act*." In 1875 it reads "*Artizans and Labourers Dwellings Improvement Act*." From 1885 to 1903 various acts dealing with town planning, housing, "small holdings," acquisition of small dwellings, building societies, and public health were included in "Housing of the Working Classes Acts." Through all the titles runs the common thought that there must be improved housing for a certain class of workers. Through the reports of the various cities runs the same common thought of what has been accomplished in improving the housing of the casual or unskilled worker, and in mitigating the house famine.

Bad Housing and Low Living Standards

The problem of the casual laborer and his family living on subsistence wages is so closely connected with the housing problem of the insanitary areas that it is difficult to

separate them. In an inspection trip through a condemned area, the observer is put to it to judge where bad housing begins and a low living standard leaves off. In a Birmingham insanitary area, one woman, thrifty, energetic, self-respecting and capable, confided to the American visitor: "Pound a week, lady, and seven to keep. Sometimes he brings home only 16 shillings and last week 10. I pay three and six rent, but they are good rooms." To her it was home; to us it was a mean little old house on a back court, with hydrant and toilet in the yard common to twelve families. Her children were clean but underfed, with one garment each, though the day was chilly. In a garden suburb with an adequate wage, her energy would work wonders. But her chances of heaven are better.

Rowntree says:

"Probably there are at least half a million casual workers in this country. They never know from week to week—sometimes from day to day—whether they will have anything to do, and as a man grows older his chances decrease."

"A wide extension of the Trade Boards Act, placing an increasing number of trades under it and fixing a minimum wage for them, is essential to true housing reform."

The problem of the house famine with the consequent room-overcrowding, is equally complicated. The census returns of 1901 show 2,667,506, or 8.2 per cent of the population living in 392,414 overcrowded dwellings, and of these 245,586 were in one-room dwellings. Birmingham had 53,936, Leeds 43,239, Manchester 34,390, Liverpool 54,390. Perhaps it is the pressure of necessity that makes the standard low and public opinion weak. For census returns, a room is not considered overcrowded until there are more than two adults or one adult and two children, regardless of the size of the room. Actually the standard set by public opinion seems much lower. For instance, a settlement worker when questioned did not think four to a room undue overcrowding. In the "sublet houses" common in Liverpool, three families in a three-room house with one water-supply and toilet did not seem to the inspector at all remarkable.

That housing reform in England has progressed along the lines indicated in the various parts of the Housing of the Working Classes Acts, is doubtless to be attributed to these conditions. Nettlefold says:

"Legislation for the last fifty years has been inspired with the idea of encouraging and assisting semi-philanthropic trusts or companies and local authorities to build the houses. No serious attempt has been made to encourage and control in a comprehensive manner the very much larger number of people engaged in house-building on ordinary business lines. The result is a very few good houses and a great many bad ones."

Useful Suggestions to America

While the progress made naturally does not satisfy English housing workers, yet there are many useful suggestions to America, and especially so in the things accomplished by health officers under the authority given them by the varied "parts" of the Housing of the Working Classes Acts. Part I of the Act of 1890 gives to local authorities the power to deal with large insanitary areas; taking a certain section and treating it as a whole; improving streets, sewers, water-supply; demolishing or putting in order the existing houses, or constructing new ones.

London is partial to this method. From 1876 to 1884 it dealt with sixteen schemes. The areas were cleared and the land mostly sold for various kinds of philanthropic or semi-philanthropic housing developments. In these schemes 23,188 persons were displaced and provisions made for rehousing 28,188. There were involved 41.73 acres and an outlay of \$6,418,378. The Peabody Industrial Dwellings and other model tenements are a product of these reforms. Although excellent in their intent, and attractive in construction and management, these tenements have the disadvantages of all multiple dwellings, and fortunately the example has not been widely followed. From 1883 to 1886 six schemes involving the clearing of areas and the rehousing of the people were completed by the London County Council. In these schemes, covering 15.15 acres, and dealing with 6,000 persons, the city built and owns the houses. From 1890 to 1910, under the Housing of the Working Classes Act, London undertook ten new schemes, displacing 19,336 persons and rehousing 14,865 on 52.24 acres.

Three other Urban District schemes and 27 County Borough schemes have been undertaken under Part I, including three in Liverpool and three in its suburb Birkenhead, one in Birmingham, two each in Brighton, Leeds, Portsmouth and Sheffield. The distribution of these towns indicates

fairly widespread interest in the plan of dealing with large insanitary areas in unit form.

Under Part I during the twelve years from 1891-1913, the Local Government Board sanctioned loans to the amount of £2,706,586, or roughly \$13,000,000. Evidently at this rate the housing problem is not being solved by Part I, though admittedly great improvements in health, sanitation and living conditions have been made in the areas treated. Nettlefold expresses the opinion:

"Opinions may differ—they do differ—as to the wisdom or unwisdom of municipal house building, but all must agree that no local authority can raise enough money to build houses for more than a very small proportion of the population whose local affairs they are called upon to administer."

It is under Part II that we find developed the schemes which are more suggestive to us. Under this part of the act, health authorities may proceed against separate houses. It provides for the closing of unhealthful houses or their demolition, if owners can or will not put them into proper condition. Houses must be kept in all respects fit for human habitation, and local authorities are empowered to see that this is done. Using also local by-laws, the authorities have, in many cases, taken action which would seem to us drastic and subversive of the "rights of property." Although one enthusiastic and successful housing reformer of Birmingham thinks that the work done under this part does not lead to permanent results, yet even he admits that the results are "good enough for thirty years or more." His ideal is to drive the people from the slums to the suburbs, leaving the center of cities for workshops and business. His ideal also will not countenance *beastly* housing because of low wages, and he maintains that it is a mistake to come down to *present* needs. Proper housing for every family and then let wages readjust themselves. Not bad, is it, especially when Birmingham through her town planning scheme is fairly on the way to accomplish the ideal?

One of the lesson-bearing results accomplished by Part II is that of tearing down obstructive houses to improve conditions in adjoining houses. When the health officers decide that an open space will materially benefit the surrounding houses, they can

allow a very moderate sum to the owner as compensation, and the obstructing house is torn down. While this seems drastic, yet in most instances the improved conditions result in improved rental returns, so that the owners are eventually quite satisfied and pleased. There are sections of many American cities where similar power given the health officers would be a community asset. Much of this kind of work has been done in Liverpool since 1905, but in 1912 they report that "this is not altogether a satisfactory method of dealing with insanitary property, and that in any case the most that has been done, generally speaking, has been to lengthen the life of the property, and that in time to come more drastic measures will probably be necessary." Does any one know any American city where tearing down a house for community good would not be considered too drastic and where "more drastic" measures are imaginable?

In addition to the Housing of the Working Classes Acts of 1890 and 1900, varying by-laws are in force. These building codes, so far as examined, differ in practice from ours, in that they are more general in their terms. Wider discretion is given to those in authority over building construction; also to health officers in regard to improvement of old buildings, and in orders for maintenance.

Our inquiries as to the specific regulations intended to control the speculative and law-dodging builder or owner, to guide architects, to establish precedents for health officials or inspectors, were met with surprise and "It wouldn't do, you know." In other words, England still assumes that each person is honestly trying to make, keep, help enforce and obey laws which will bring about good conditions. We saw some jerry-building, talked with inspectors about occasional evasions, but the speculative skin builder, as we know him, is not common nor respected.

On the whole, the health authorities in dealing with the housing problem seem to have more discretion than do ours to deal with their peculiar problems. They are less hampered by rules and ordinances.

On the basis of such a cursory study it is hardly fair to arrive at conclusions, but impressions have some value—at least to the original observer. England, even though the factors in her housing problems are different, has some lessons for us. First and

most important is her stand for a self-contained dwelling with a garden for every family. Second is the query raised by her encouragement of the building of municipal tenements. Do they indicate a semi-dependent class of workers who cannot pay an economic rent, and who must be carried by the taxes, and have we any such class? If so, is the general return to the community in health, lessened crime and hospital ex-

pense, sufficient to balance the outgo? Third, cannot we profitably study her town-planning schemes, and devote more of our attention to the development of the surrounding districts rather than giving so much admiration to proposed civic centers? Fourth, can we encourage the coöperative garden city and industrial town idea, so that it will grow with us as rapidly as in England?

EDITOR'S NOTE.—The foregoing article is the fourth of the series on "English Housing from American Points of View," prepared by members of the National Housing Association as a result of a careful study made on a visit to England last summer. Other articles will appear in subsequent issues.

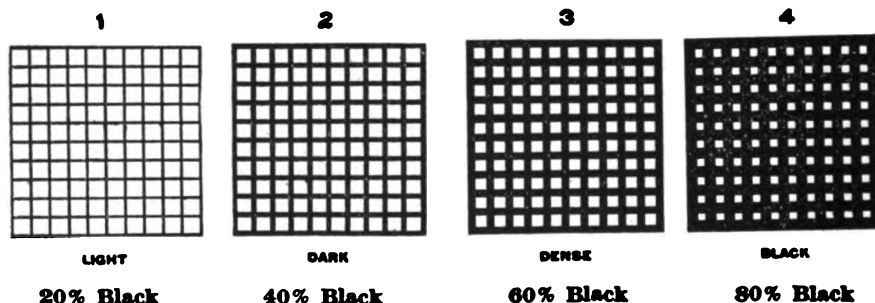
Smoke Elimination in Salt Lake City

By George W. Snow

Chief of the Bureau of Mechanical Inspection, Salt Lake City

THE new smoke ordinance in Salt Lake City is modeled after those now in force in cities which have made the most marked progress in the abatement of the smoke nuisance. The methods authorized by it are those which have been found to be the most effective for both temporary

tor can inspect and pass on all new plants or changes in old plants, and thereby control new furnace construction. Until the passing of this ordinance, there was no protection against the installation of improperly designed boilers and boiler setting, and the city was filled with boilers and furnaces



RINGLEMAN CHART USED BY INSPECTORS IN GRADING SMOKE

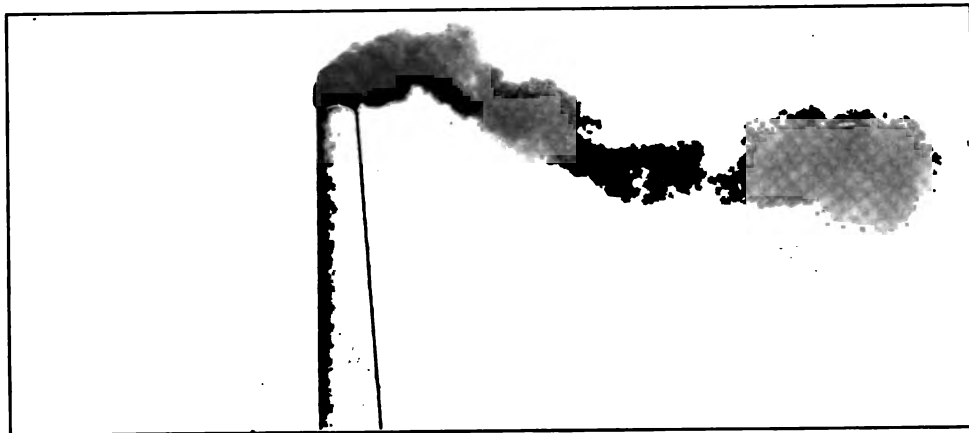
The inspector places the chart a sufficient distance from the eye to cause the lines to merge, and then compares with it the density of the smoke under observation. The Salt Lake City ordinance provides penalties for the production of smoke of greater density than square No. 2.

and permanent results. The ordinance recognizes that strict control of furnace construction will give more permanent results than desultory imposition of severe penalties on the smoke-makers; it emphasizes the necessity of obtaining the coöperation of the plant owners with the city officials, and provides for direct and decisive action when the offender does not exert his best effort to remedy the nuisance.

By requiring permits, the smoke inspec-

tor can inspect and pass on all new plants or changes in old plants, and thereby control new furnace construction. Until the passing of this ordinance, there was no protection against the installation of improperly designed boilers and boiler setting, and the city was filled with boilers and furnaces

not adapted to the local coals. Some of these difficulties have been handled by changes in the method of firing, others by altering the furnaces, and still other plants have been made smokeless only by a change in fuel. Careful records are kept, charts and notes are made, and photographs are taken of all plants seen smoking. As these reports come to the office, the offense is taken up with the offender; expert help is given in operating

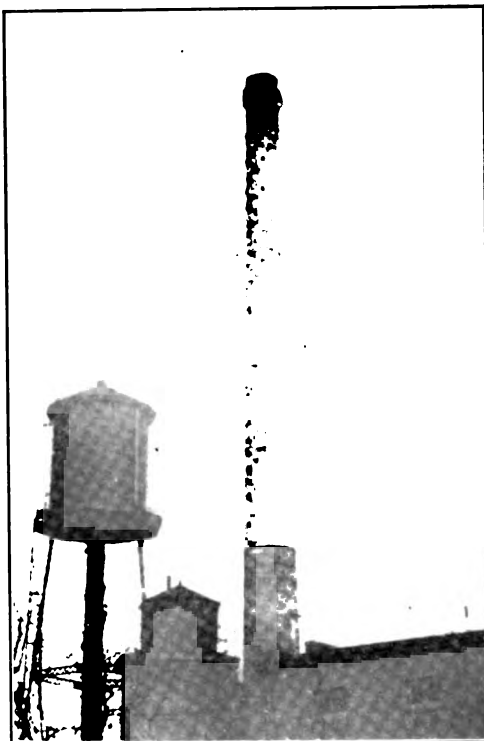


his furnace, and every effort is made to have him cooperate with the department in stopping the smoke. If he does not respond, he is turned over to the legal department for prosecution. Hasty prosecution of offenders does not meet with favor in court. It is first necessary to show that other means of getting cooperation have failed. Since a record is kept for each individual case, the point is soon reached where the offender realizes that he would make a very poor showing in court if arrest became necessary. As a rule, this produces results, and offenders become backers of the department.

In carrying on the work, the worst offenses in the congested parts of the city have received the first attention. Although the aggregate quantity of smoke may be greater in the outlying residence districts, yet, because of its distribution over a larger area, it is not as great a nuisance as that from the power and heating plants in the congested section.

Residences, though not covered by the ordinance, should be; and when possible they should adopt some form of smokeless boiler or furnace. These can now be had in types and sizes suitable for the larger residences. Many people think the problem of smoke prevention is the application of some special device "which if placed in the stack or in the smoke passages" will in some way consume the smoke. This impression is erroneous. The only permanent and practical solutions are a smokeless fuel or a properly designed furnace for burning our local soft coals.

The smoke problem is not one that never will be solved, but one requiring time and patience in its solution, and needing, above

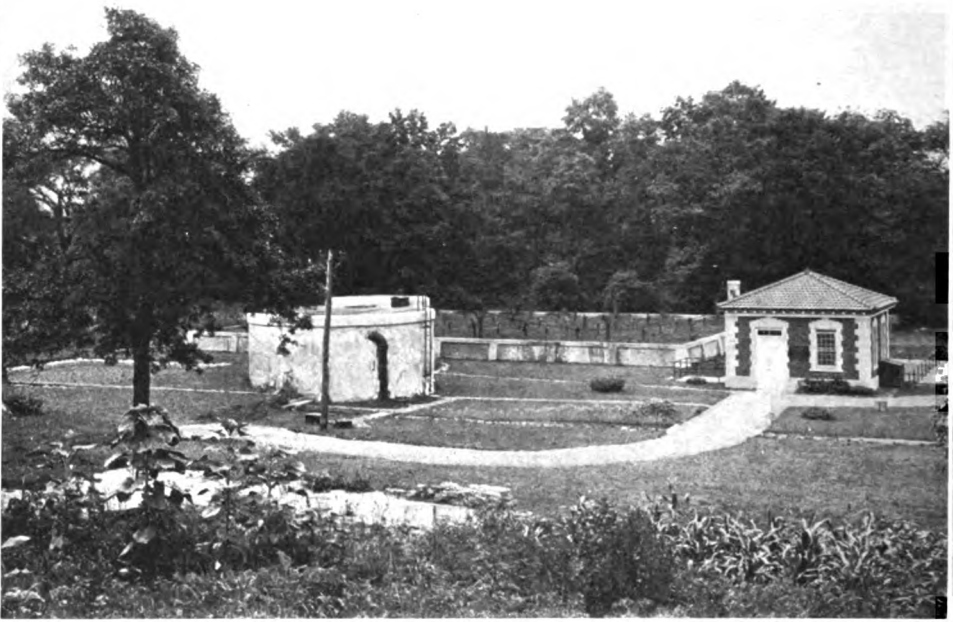


A TYPICAL EXAMPLE OF SMOKE
ELIMINATION

This plant was formerly equipped with an overfeed type of stoker not suited to burning soft coal. These stokers were removed in November, 1914, and replaced with underfeed stokers, effecting a saving of 11 per cent. in fuel. As to the lessening of smoke, the pictures tell their own story.

all, a sound public opinion that does not expect miracles. Salt Lake City has a large number of smokeless plants, and new ones are continually being added to the list. The man who goes to the expense and care of making and keeping his plant smokeless is truly public-spirited.

Beautifying a Sewage Disposal Plant



STRUCTURES AND SURROUNDINGS OF THE SEWAGE-DISPOSAL PLANT AT
HARRISON, N. Y.



Photographs by courtesy of Alexander Potter, of New York, Consulting Engineer

PLANTING ON THE HARRISON SEWAGE SPRINKLING FILTER BEDS

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News and Ideas for Commercial and Civic Organizations

New Bulletins

DANBURY, CONN.—*Danbury C. C. Items*. Published monthly by the Chamber of Commerce.

HIBBING, MINN.—*The Hibbonian*. Published monthly by the Commercial Club.

JAMESTOWN, N. Y.—*The Civic Weal*. Published monthly by the Board of Commerce.

MUSKOGEE, OKLA.—*The G. M. A. Report*. Issued periodically by the Greater Muskogee Association.

McKEESPORT, PA.—*The Key-Port*. Published monthly by the Chamber of Commerce.

SELMA, ALA.—*Chamber of Commerce Bulletin*. Issued occasionally by the Chamber of Commerce.

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Flood Abatement Activity

OLEAN, N. Y.—Following the disastrous floods in March, 1913, from which the city of Olean suffered in common with many other towns throughout New York state, the Olean Chamber of Commerce appointed a flood abatement committee, to which was assigned the task of deciding upon plans which would secure the city against the menace to life and property by dangerous floods.

The committee, which consisted of men who had no direct interest in the flood abatement work, began by applying to the Federal Government for information regarding similar work elsewhere in the United States. Much research followed, and after the report of the committee had been adopted by the Mayor and Common Council, a bill was introduced into the New York Legislature in January, 1914, asking for an appropriation of \$150,000 for flood abatement purposes, on condition that the city of Olean bond itself for a like amount. The bill was signed by Governor Whitman on May 24, 1915.

An almost unanimous vote of the citizens

of Olean was polled in favor of the city's contributing \$150,000 toward the project. Thus \$300,000 has become available for straightening, dredging and diking the Allegheny River, Olean Creek, and their tributaries within the corporate limits of the city. And thus hundreds of acres, now in the flood zone, will be converted into dry and desirable residence, factory and garden property. Where there are now only swamps, city streets will be extended or opened, and in due time building will be commenced.

The work is being done under the direction of the Superintendent of Public Works. The Flood Abatement Commission of Olean was formed, pursuant to a provision of the bill for a local commission of five men to look after the interests of Olean. The rights of way have been secured and the preliminary plans completed. The Commission has engaged executive engineers from Albany, who are at work upon the final plans. It is expected that the machinery and equipment of the contractors will be on the ground by the last of November at the latest.

E. W. FITZGERALD,

President, The Flood Abatement Commission of Olean.

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Free State Employment Bureaus

YOUNGSTOWN, OHIO.—Through the efforts of the committee on unemployment of the Youngstown Chamber of Commerce, a branch of the Free State Employment Bureau, which is maintained jointly by state and city, was secured for Youngstown. There are seven other such bureaus in Ohio, which are operated under the supervision of the State Industrial Commission, and are located at Cleveland, Columbus, Akron, Cincinnati, Toledo and Dayton. These labor exchanges make no charge for services, either to applicants for work or to applicants for workers. Every effort is made to supply the employer with the best

help available and the applicant with the best position which can be secured.

The employment committee of the Youngstown Chamber is well satisfied with the manner in which the work of the local bureau is conducted, and with the way in which the local employers of labor are making use of its services.

The following will illustrate the volume of business which is being done by the seven Ohio agencies. During the month of July of this year Cleveland placed 2,897 persons; Toledo, 1,793; Columbus, 1,011; Cincinnati, 799; Youngstown, 606; Akron, 541; and Dayton, 507, a total of 8,154 persons. This is an increase of 147 per cent over July of 1914, which is partly accounted for, no doubt, by the fact that three new agencies were established during the year.

The following are figures which were given to the Chamber recently by the superintendent of the local branch, giving an idea of the work done by him in Youngstown since the establishment of that branch four months ago:

Number of new registrations.....	3,010
Number of requests for workers.....	2,504
Number of applicants referred to positions	2,467
Number of applicants reported placed..	2,074

PAUL L. HARVEY,
Of Youngstown Chamber of Commerce.



School Census

DALLAS, TEX.—The general school fund of Texas is pro rated on a per capita basis, each independent school district receiving approximately \$8 per pupil of school age who is enumerated and listed. The census heretofore taken in Dallas to determine what appropriation was necessary for school purposes has apparently included only those who were actually in attendance upon the schools, and the result was unsatisfactory. The Dallas Chamber of Commerce, therefore, had a thorough canvass made of all the business houses that employed children of school age, and recommended the taking of an additional census to include every child of school age in the city, whether in or out of school. Such a census was taken, with the result that over 3,000 names were added to the list, and brought approximately \$24,000 more to the schools of Dallas.

J. R. BABCOCK,
Secretary, Chamber of Commerce.

Charter Investigation

NORFOLK, VA.—The Chamber of Commerce of Norfolk has taken the initiative in a movement to secure for that city a new charter providing for a more simplified and business-like form of government than the one now employed. There is in force in Virginia at present an Optional Charter act, passed by a recent legislature, giving the municipalities in the state the choice of several forms of government should a change be desired. The committee of the Chamber appointed to investigate the subject is opposed to using the authority granted by this act, on the ground that the grafting of a new administrative method upon their present charter would involve the result in too much uncertainty and would be liable to lead to complications. None of the forms given in the act seems to the committee to be adequate. After making certain investigations on its own part the committee, therefore, decided to recommend the adoption of a new charter for Norfolk embodying the city manager principle.

It was desired, however, that the people of the city should be sufficiently informed as to the merits of the various types of city government in use to act wisely when the subject came to be voted upon. The Chamber accordingly appointed a special committee of three citizens of different political faith and ideas with regard to a charter, to visit a number of cities where commission government is in use, also cities where the city manager form has been adopted, to study their workings at first hand with a view to determining their relative merits, the findings to be presented to the people.

The special charter investigating committee visited the cities of Des Moines, Ia., Memphis, Tenn., and Dayton and Springfield, Ohio, the first two of which have the commission form of government and the last two the commission-manager plan of government. The situation existing in each city as a result of the plan in use, as well as the plan itself, is discussed in the report.

The committee found that although commission government represents a distinct advance over the old type of municipal government, and that the non-partisan primary, the small governing body, the short ballot and the abolition of ward representation

have gone far toward giving cities a business-like administration, it did not, in their judgment, provide an organization of the greatest efficiency. The principal objection was to the lack of administrative unity and harmony owing to the fact that the executive function is divided among five men of equal authority and dignity, there being no one person whose duty it is to view the affairs of the city as a whole and plan and direct them as a whole.

The committee was more than ever convinced, after concluding its investigations, of the accuracy of the Chamber's judgment in the first instance, and urgently recommended the adoption of the city manager plan. It also recommended that the Chamber of Commerce inaugurate "a continuing program of education, to the end not only that people may be prepared to vote intelligently on the adoption of a new form of government, but that there shall be awakened such a general and enlightened interest on the subject of efficient administration that the new government will not shortly be permitted to fall into corrupt or incompetent hands."

The report, with the recommendations which it contained, was presented to the board of directors and unanimously adopted. It was then printed in pamphlet form and 10,000 copies mailed to the voters in the city. The matter now rests with the citizens of Norfolk.

W. A. COX,
Secretary, Chamber of Commerce.



Civic Art

DENISON, TEX.—The accompanying cut shows the park entrance and a section of the Union depot at Denison, the latter having been built by the Missouri, Kansas & Texas Railway at a cost of over \$250,000. Part of the ground upon which the depot was erected was given by the citizens of Denison through the efforts of the Denison Chamber of Commerce.

The adjacent well-kept park, with its fountain and ornamental lighting effect, presents a picture of civic attractiveness the year round.

W. A. KING,
Secretary, Chamber of Commerce.



UNION DEPOT, DENISON, TEXAS, SHOWING PARK, FOUNTAIN AND LIGHTING EFFECT

ban day" were successful events. The bureau has contracted for two talks by Frank Jewel Raymond, business expert, to be held in September.

The public welfare committee has worked out and instituted a plan of investigating solicitations, through which all the members of the Chamber will be protected from fraudulent and petty solicitations.

An armory building was felt to be needed in Hazleton, and the Chamber of Commerce aroused sufficient public sentiment in favor of such a project to secure from the State Armory Board an appropriation for the erection of such a building.

The Fourth of July celebration was undertaken by the Chamber, which raised the funds and provided for a day and evening of athletic events, band concerts, fireworks and a generally good time.

HARRY H. FREEMAN,
Secretary, Chamber of Commerce.

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Movement for Taxation Exemption

JOHNSTOWN, PA.—With the Johnstown Chamber of Commerce leading the movement, the commercial organizations in the third-class cities of Pennsylvania are preparing for another assault upon the State Legislature in an effort to secure laws for the exemption of machinery and the gradual exemption of improvements from taxation. A hard but losing fight was made in the last legislature by the Taxation and Home Rule Committee of the Johnstown organization. The defeat was due to certain interests in the larger cities which desired a repeal of similar laws enjoyed by Pittsburgh and Scranton, the two second-class cities in the state. Had the Johnstown measures for tax exemption gone through, the "repealer" would probably have lost out; therefore a concentrated attack was made upon the third-class city bills. The soundness of the stand of the Johnstown Chamber of Commerce was demonstrated when Governor Martin G. Brumbaugh vetoed the Pittsburgh "repealer" on the ground that the present law was right in principle.

At a meeting of the League of Third-Class Cities, held in Reading last fall, Johnstown and the other commercial organizations of the state had representatives there, getting the municipal officers' organi-

zation lined up on their side of the battle. When the next legislature convenes, the third-class cities will have their lines drawn even tighter than before.

The following third-class cities were active in their support of the measures: Allentown, Altoona, Chester, Easton, Erie, Harrisburg, Hazleton, Johnstown, Meadville, Oil City, Reading, Titusville, Williamsport and York.

The machinery exemption calls for a complete absence of tax for that class of property. The plan for the graduated exemption of improvements is based on a five per cent reduction each year for ten years, so that at the end of that period all improvements will be taxed at only fifty per cent of their real value. The taxes on land will remain at par as at present.

In a booklet recently issued by the Chamber, entitled "Making Johnstown a Live City," the statement of the Taxation Committee is as follows:

Every citizen has visions of better streets, brighter lights, more efficient public safety and a school educational system upon a broader plane. These advantages all spring from the adoption of an equitable taxation system where one man does not shoulder part of another's portion of expense. When a taxpayer knows that he is paying only his just share for municipal management and public improvement, he cheerfully settles the bill. Study of and campaigns for some of the fundamentals of such an equitable system is the work into which this committee has plunged.

P. H. MAHAFFEY, Chairman.

To encourage enterprise by untaxing progress is the "Johnstown Plan."

J. KENNARD JOHNSON,
Assistant Secretary, Chamber of Commerce.

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Four Referenda

PATERSON, N. J.—The Chamber of Commerce of Paterson has been testing out the referendum idea the past year as a method of learning and recording the sentiment of the members on questions of policy. Referenda were sent out on the following four questions: the establishment of a credit bureau; the establishment of a traffic bureau; merchant marine; legislative matters.

A satisfactory response was received on the first two questions, since each held a single thought, and after reading the subject matter concerning the establishment of the bureaus, each member could record his yea or nay vote without much doubt.

The response with regard to the merchant marine, however, was not so prompt, for the reason that eight questions relating to the subject were submitted, some of them much involved, and the members laid this referendum aside for further consideration.

In sending out the referendum on legislative matters, the secretary desired to discover the best way of keeping the members informed of the bills before the State Legislature and of deciding on which ones action should be taken by the organization. The referendum was in the form of a report of the legislative committee of the Chamber, which met about the middle of the session of the State Legislature when the majority of the bills were on first or second reading. The committee selected all the bills which affected the trade and industries of the city and of the municipality and county, and recorded their approval or disapproval. The statement was then mailed to the members, who were asked for their opinions on the policy of the committee.

It is the intention of the Paterson Chamber of Commerce to experiment further during the coming year with the referendum, believing it to be an excellent means of maintaining interest in the organization and in what it is endeavoring to accomplish.

JOHN J. FITZGERALD,
Secretary, Chamber of Commerce.



City Financiers Cooperate with Farmers

DETROIT, MICH.—An excellent illustration of the interest city capitalists are taking in farm life and the improvement of the quality and increase in the quantity of farm products is to be found in the recent action of three old and well-known Detroit banks in offering prizes for the best bushels of corn grown in twenty of the leading agricultural counties of Michigan.

The People's State Bank, the First and Old Detroit National Bank, and the Union Trust Company have united in appropriating \$300 from which to pay a first prize of \$10 and a second prize of \$5 for the first and second best bushels of corn grown in each of the following twenty counties: Wayne, Macomb, Oakland, St. Clair, Sanilac, Huron, Tuscola, Genesee, Livingston, Washtenaw, Monroe, Lenawee, Hillsdale,

Jackson, Ingham, Shiawassee, Saginaw, Gratiot, Clinton and Eaton.

The corn submitted by the various counties will be shown at the Michigan state fair, to be held at Detroit, September 6 to 15, 1915, and the awards will be made by the regular fair judges. In addition to stimulating the production of corn, a crop second only to wheat in forming the basis of national wealth, this contest will undoubtedly aid in increasing state-wide interest in attendance at the fair.

BYRES H. GITCHELL,
Secretary, Board of Commerce.



Peach Day

MUSKOGEE, OKLA.—Muskogee County recently found herself possessed of a large crop of peaches, with no provision having been made for marketing them. The peach growers were called together and a hasty organization was formed. A canning plant was arranged for, the machinery leased, and a great many of the peaches were taken care of in that way. It was apparent that the outside world did not know that Muskogee is a peach center, and consequently there were few peach buyers in the territory.

With the object, therefore, of impressing that important fact upon the residents of Muskogee County, the Greater Muskogee Association declared that August 14 would be known as "Peach Day." Arrangements were made with the growers of peaches to bring in quantities of the fruit, and with the storekeepers, bankers and custodians of the large office buildings that each obtain from them at least a bushel basket of the peaches and set them in front of his place of business, attaching a card bearing the words, "G. M. A. Peach Day. Take One With Us." The Mayor issued a proclamation declaring August 14 to be "Peach Day," and calling upon the people of Muskogee to each send a peach to some friend in another state with a letter telling about Peach Day.

The press bureau was kept busy sending news matter to the trade papers affecting the peach trade, to further advertise the peaches of Muskogee County.

W. SCOTT RADEKER,
Managing Secretary, Greater Muskogee Association.

Committee Regulation

JAMESTOWN, N. Y.—The Jamestown Board of Commerce has worked out a plan of committee control which consists of a wall chart and two index cards, each of which is reproduced herewith.

The card marked No. 1 is a sample of the wall chart (actual size 22 x 28 inches). This hangs at the side of the secretary's desk, where a glance will show him the condition of the activity of every committee. No. 2 is a committee card (size 4 x 6

used in making up committees, so that no one member will be given too much work and as many as possible given committee appointments.

F. C. BUTLER,
Secretary, Board of Commerce.

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Commercial Organizations in France

WASHINGTON, D. C.—The Bureau of Foreign and Domestic Commerce at Washington has recently issued a monograph entitled "Commercial Organizations in France," which contains a history of the French organizations, a survey of their rights and functions, the distinguishing features of the various bodies, lists of all the chambers of commerce in France, regulations governing them, an account of their participation in legislation and judicial work, and a description of all the commercial institutions of the government. The monograph is No. 98 in the Special Agents Series, and may be obtained for ten cents from the Superintendent of Documents, Washington, D. C.

In France the chamber of commerce is a public body, controlled by legal enactment, possessing administrative powers and working in coöperation with the authorities of the government. The French government correlates and coördinates every feature that can be made to act

upon the commercial development of the Nation. A most effective system of commercial direction and regulation, trade promotion and industrial education is said to be maintained by the Ministry of Commerce and Industry.

E. E. PRATT,

Chief, Bureau of Foreign and Domestic Commerce,
Department of Commerce.

COMMITTEE	DATES OF MEETINGS														
	7	8	10	12	14	15	17	19	23	25	26	1	3	4	6
Board of Directors			X				X		X			X			X
Retail		X					X					X			X
Wholesale					X				X				X		
New Industries	X			X		X			X				X		X
Publicity		X		X			X								
High School			X				X								

Card No. 1

COMMITTEE	DATES OF MEETINGS														
	7	8	10	12	14	15	17	19	23	25	26	1	3	4	6
MEMBERS															
John Jones	P	P	P	P	P	P									
J. A. Smith	P	P	P	P	P	P									
W. E. Peters	A	A	A	P	A	A									
T. B. Namley	I	I	I	P	P	P									
J. Hawthorne	P	A	P	P	O	O									
F. B. Nolley	O	P	A	P	P	P									
A. C. Gray	P	A	P	P	A	P									
T. E. Brand	I	P	P	P	O	P	A								

Card No. 2

MEMBERS	DATES OF MEETINGS														
	7	8	10	12	14	15	17	19	23	25	26	1	3	4	6
COMMITTEE															
New Industries	C	P	P	P	P	P									
Wholesale		P	A	P	P	P									

Card No. 3

THE FIGURES IN THE ABOVE TABLES INDICATE:
A—Absent; P—Present; I—Ill; O—Out of town

inches), and one such card is made out for every committee. The members' names are listed as shown, and the dates of the meetings. No. 3 is an individual membership card (size 4 x 6 inches), and gives a list of the committees upon which the member has worked, together with his attendance record. The result of the attendance record is given from time to time in the monthly publication. The individual card is also

For Increased Membership

MINNEAPOLIS, MINN.—The Minneapolis Civic and Commerce Association has adopted a new device for increasing its membership. Its members have been furnished with a booklet giving the names of the persons on the membership committee, with their addresses and business and residence telephone numbers, also containing a list of the members of the Association, corrected to date of publication. On the inside cover is the following message:

"The Committee on Membership furnishes you with this book in order that you may divide your friends and business acquaintances into two groups:

- "1. Those who are members.
- "2. Those who are not members.

"The committee is interested in the second of these groups and solicits your aid in transferring them to group 1.

"On page 1 is a list of the members of the Committee. If you will suggest to one of them the names of some of your friends who are not members, he will be glad to call and explain to them the advantages of membership in the Association.

"Help to make the membership of our Association commensurate with our city-wide service."

Members are asked to keep the book on their desks or in their pockets, where they can constantly refer to it to ascertain whether or not the person in mind is a member of the Association.

HOWARD STRONG,
Secretary, Civic and Commerce Association.



A New Organization

MARIETTA, OHIO.—Although the Marietta Chamber of Commerce is not quite two months old, the work of the organization is well under way. There are 400 members, paying a minimum fee of \$25 a year. The Chamber was organized on the departmental plan, with a director at the head of each department. The departments are: Industrial Development, Civic Improvement, Trade and Commerce, Retail Merchants, Transportation, County Development, Organization. Each department has its subdivisions, with a chairman at the head of each. There is but one standing committee—the Ways and Means Committee—which acts as the members' council.

The new organization at once asked the City Council to set apart for the Chamber's use the old city hall building, which was done. It is being restored for the Chamber's immediate occupancy. The building

will also be headquarters for the Merchants' Association and the civic clubs throughout the city, as well as the Ad Club and the Agricultural Agent.

By a resolution passed at a recent meeting of the Board of Directors, the Chamber went on record as endorsing the work of the Associated Charities, the Federation of Women's Clubs, the Salvation Army, the established churches, and the established fraternal orders; also the advertising pages of the regular newspapers published in Marietta and in Washington County—all charity or advertising propositions not included in this classification to be presented to the Chamber of Commerce for endorsement.

The Chamber is at present financing a campaign for a special road tax of 1.5 mills. If the election is carried in November, an income of more than \$225,000 a year for five years will be available for road construction. At the end of that period, a similar proposition will be presented to the voters.

JAMES H. WARBURTON,
Managing Secretary, Chamber of Commerce.



A Vigilance Bureau

COLUMBIA, MO.—The Retail Merchants' Association of Columbia has a "Vigilance Bureau" which censors all advertising and charity propositions that are presented to the proprietors of business establishments in the community. A set of by-laws was drawn up for the Vigilance Bureau at a meeting of all such proprietor members of the organization. These by-laws the bureau uses in approving or disapproving propositions, and certain other rules were established to meet conditions not specifically provided for in the by-laws.

In cases where the proposition presented for endorsement does not appear to the secretary to be covered by the prescribed rules and regulations, the matter is submitted to the president of the organization, who refers it to the chairman of the vigilance committee. The vigilance committee renders its decision on the proposition, which is reported to the president, who then sends it back to the secretary. If the proposition has been considered favorably by the vigilance committee, the secretary fills out an endorsement slip which is given to the solicitor, and the solicitor must show the slip to all members of the organization whose

patronage he wishes before the proposition will be considered. Members are provided with a card furnished by the Vigilance Bureau, which is kept in a conspicuous place in their offices.

The effective service which the bureau performs makes many friends for any commercial organization rendering it.

C. O. HANES,
Secretary, Retail Merchants' Association.

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Motion Pictures Taken by a Chamber of Commerce

REDLANDS, CAL.—A motion picture camera is owned by the Chamber of Commerce. Five films have been taken: one showing interesting and historic points in and around Redlands; one of the orange industry, complete from seed to consumer; one of the "Road Building Bee," at which 200 citizens spent a day widening and improving a road into the mountains, and two of Fourth of July celebrations.

The camera man is a local photographer who has had experience in taking motion pictures. He does the work on contract, guaranteeing 1,000 feet of perfect film. A committee from the Chamber of Commerce works with him, planning the details and general character of the film.

The complete film is shown in one of the local moving picture houses. The Chamber of Commerce takes over the house for one or two evenings, paying the proprietor his actual house expense. The proprietor is always willing to make such an arrangement because of the advertising he receives. The film is shown together with the regular pro-

gram of pictures, and the receipts, above the house expense, go to the Chamber. The film is then put on the circuit, or pieces of particularly interesting film are given to the weeklies. One of the Redlands films—that illustrating the orange industry—is being shown at the San Francisco Exposition.

M. A. RIPPY,
Secretary, Chamber of Commerce.

✦ ✦

Children's Day

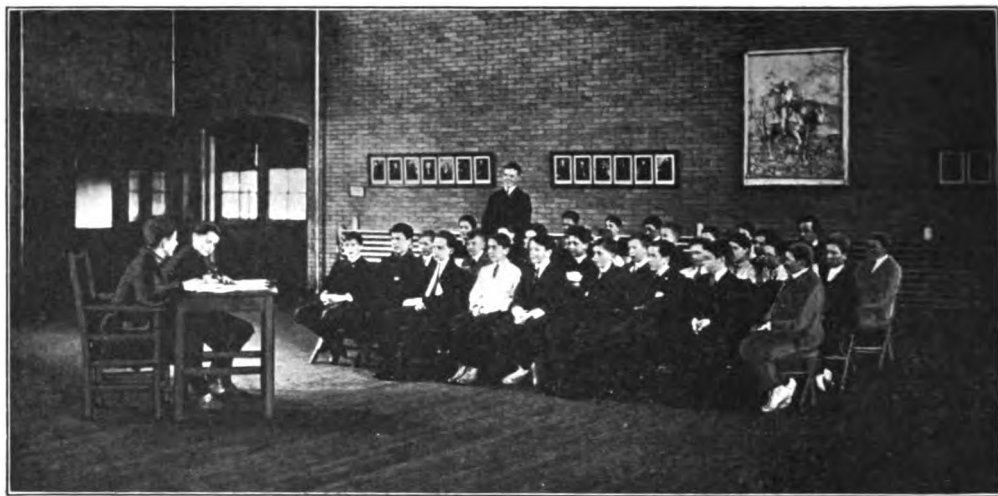
HUNTINGTON, IND.—One of the new activities of the Huntington Chamber of Commerce is the entertainment of the children of the worthy poor in Huntington and the county in which the city is located without expense to themselves or parents. The idea of children's day was so popularly received last year that it was decided to extend the plan this year to include the children of the entire county. More than 3,500 children were entertained this year. The Chamber has lent its support to this activity in the belief that a movement which encourages the formation of acquaintanceships early in life between the people of the city and country and helps to knit together the interests of each, is worth while.

The program included prayer, the presentation of an American flag to each child, a short talk on civic pride and the child's civic duty, an automobile ride, a lunch served free, games of all kinds, including a merry-go-round, music by a children's band, and a child's play, given out of doors, taken from a Russian folklore story.

C. B. WILLIAMS,
Secretary, Huntington Commercial Association.



THE MOTION-PICTURE CAMERA AT WORK FOR THE REDLANDS CHAMBER OF COMMERCE



A ROCHESTER BOYS' CLUB MEETING

Organizing Rochester's School Boys for Accident Prevention

By Roland B. Woodward

Secretary, Rochester (N. Y.) Chamber of Commerce

SOME time ago a public school pupil was killed in a traffic accident near the school grounds. The fatality was one of an epidemic which seemed to be spreading over Rochester that summer. Drastic measures were needed to check it. The police had not relaxed their customary vigilance in enforcing the traffic laws, which, however, seemed to be of but little avail. There was a crying need for a public accident prevention campaign as effective and popular as Rochester's industrial "safety first" efforts, which have enabled some of our largest industries to reduce their accidents as much as 73 per cent.

Great quantities of "safety first" literature had been prepared and distributed by Accident Prevention Committees of the Chamber of Commerce in preceding years. An educational campaign of considerable extent and intensiveness had been conducted through the press and other mediums. Excellent results had been obtained, but circumstances, unfortunately, would occasionally combine against us. It is the lot of any city, and happens in the best of well-regulated communities, despite eternal agitation.

The Chamber knew the answer and had sought long for ways and means. The an-

swer was that there had been found no way to apply the principles of successful organization to public accident prevention. Here was a city of more than 225,000 souls which was not organized to devote personally some time and actual effort to "safety first" campaigns.

The Chamber realized that the public schools presented very promising opportunities for such organization. Accordingly, detailed accident and fire prevention courses were drafted for the pupils. The Board of Education, however, ruled that the teachers were already too much occupied with matters considered of more pressing importance to permit of any systematic and extensive instruction in these courses. Their presentation to the pupils was left to the discretion of the faculty. Consequently, the committee's plans could not be effected in toto.

The accident to the pupil mentioned in the opening paragraph, however, furnished a fortunate solution. Without suggestion from outside sources, the Boys' Club of that school appointed a Safety Committee, the members of which stationed themselves at dangerous localities nearby and carefully guarded the younger ones on their way to and from school.

There is a Boys' Club in each of thirty-three of the city's forty schools. The membership of each club is limited to thirty pupils, whose influence for good is felt throughout the school. They are the older boys from the grades above the fifth. They are the leaders whose actions are copied by the younger pupils. Almost any cause espoused by these clubs is taken up instantly in the schools, which are attended by 40,000 pupils in Rochester.

This tremendous power is being utilized by the Chamber. Plans are now under way for the organization this fall, when school reopens, of a Junior Safety Council within the Rochester Chamber Council, No. 9, of the National Safety Council, which has recently been given charge of the Chamber's accident prevention campaigns. The scheme is this: each Boys' Club will name a Safety Committee of six members who will represent their body in the Junior Safety Council. They will comprise the Council's membership.

Weekly letters giving descriptions of recent accidents to children were sent out during the spring to each committeeman for distribution throughout the school. These accidents, and ways and means whereby they might have been avoided, are discussed by pupils at special meetings of the clubs. In addition, the safety committees receive weekly letters covering accident prevention in a general way. Following is a sample letter sent out May 10, 1915:

"TO MEMBERS OF BOYS' CLUBS OF THE GRAMMAR SCHOOLS:

"The baseball team wins whose members use their heads. They are careful and thoughtful of every opportunity to clout in the runs. They are on the lookout for every loophole as fast as it appears in their opponents' defense. They are on the job all the time—keen, constant and alert, and they win their games.

"Safety First' is but another ball game. The player who does not die on the bases is he who gets safely home each night. Sometimes he is 'clouted' home by another 'player.' In every case, however, the big man—the player who is worth the most to his team—uses his head.

"Every street is a baseball diamond; every trolley car, every wagon, every automobile may be considered a player on the opposite team. He must be watched carefully all the time or he will tag you at second, or at home, and that means the loss of a leg or an arm. Not merely failure to score a run, which in this case would mean help for your home when you grow up. If you are thoughtless and are tagged on the bases you may be made a cripple for life!

"It's a great game, boys—this 'Safety First.' Put on your masks, your shin guards and chest protectors and get into it. The boy who wins is he who uses his head and who occasionally 'clouts in a run' by showing his friend how to do the thing safe. Look both ways before crossing the street. Play safe!

"Yours for safety,

"SAFETY COUNCIL,
"ROCHESTER CHAMBER OF COMMERCE."

The actual accidents described in the other letters are not picked haphazard, but

follow a well-defined system for concentrating upon the various classes of common mishaps.

The meetings at which the foregoing are read are conducted with most impressive formality, the boys observing all the rules of order. Formality appeals to them, so they will be permitted to draw up and adopt by-laws for their Council, and elect their own officers, executive and standing committees; in short, they will conduct the Council's activities with all the regularity of the Chamber of Commerce.

The Chamber's rooms will be thrown open for meetings of the Junior Safety Council on one night in each month. In the interim the youngsters will be asked to keep constantly on the lookout for hazardous conditions. When such are found they are to be reported by the boys at regular monthly meetings for action by the Chamber and the proper city authorities. Safety buttons of appreciable value will be given as rewards for this service. A Chamber of Commerce safety medal will be the supreme reward for saving a life.

The constitution of the Boys' Club organizations provides that

"It shall be the aim of members of this club to stand for clean speech, clean sports, clean habits, a spirit of loyalty to the school, club director, fellow members and self, for a policy of self-government and for higher standards of scholarship."

Here are some of the school insignia requirements:

"1. A boy must not be absent from the club more than twice during the semester without a satisfactory excuse accepted by the director.

"2. A boy must be a good loser as well as a good winner.

"3. He must take an active part in the business meetings by making motions or talking on something of interest to the club at least twice during the semester.

"4. He must obey the Constitution absolutely."

Preliminary meetings of the Junior Safety Council were held last spring. The adults who attended were astonished by the exhibition of confidence and skill with which the lads made their reports. Here is the medium through which accidents may be greatly reduced in Rochester. Such an organized campaign will be carried by the pupils into nearly every household. The extent of its immediate influence will be tripled and the child will grow up to be the safe citizen and employe of to-morrow.

Local Printed Publicity for Commercial Organizations*

By Wycliffe C. Marshall

Assistant Secretary, Harvard Square Business Men's Association, Cambridge, Mass.

IF a commercial organization's work is to be known properly, within and outside of the organization, some form of systematic, local publicity is essential. The two most prominent purposes of such publicity were described by two secretaries in recent public addresses as "preserving the sustained enthusiasm on the part of the members," and "focusing public attention upon their coöperative achievements."

Printed publicity is the most commonly employed method for accomplishing both of these ends. The most common forms which this work takes are either space in the news columns of local newspapers or an official organ, issued periodically.

Gratuitous Newspaper Publicity for Commercial Organizations

Gratuitous newspaper publicity, when properly prepared, is invaluable to an organization. For the whole country it is safe to say that commercial organizations receive as much free news space as any other one type of association. This liberality on the part of the press usually is appreciated, and that it is generally regarded as an invaluable aid by secretaries is shown by the reports from these organizations of widely varying size in all parts of the country, and operating under every conceivable condition, in places of from 5,000 inhabitants upward. Many obvious benefits the local papers offer to those commercial organizations which are not strong enough financially to have an official organ. Columns of free newspaper space for publicity work that it would bankrupt any organization to pay for at space rates are thus secured without cost.

Successful results, of course, depend

upon the contact between the organization and the press. The contact is made in various ways. Concerning this point, replies to a questionnaire sent to 42 associations located in places having upwards of 5,000 population are interesting.

The secretary in one city of the Middle West writes:

"We employ a publicity man, who covers the meetings of our governing committee for the local daily newspapers and also furnishes the newspapers and trade journals with copy of general interest relating to matters in which we are interested."

In the words of the secretary of an organization in a southern city:

"We called together representatives from four of the more important newspapers . . . and . . . they unanimously agreed to give the organization one-half page in each of their newspapers every Sunday, or as much thereof as they could conveniently give, to interesting reading matter."

In one of the largest cities:

"During the year . . . a considerable part of the time of the manager was given to personal interviews with newspaper men in order to inform them of the plans and work of the Association. In general it was the aim of the Bureau to keep the relations between the Association and the press as cordial as possible, and to make the headquarters known as a place where newspaper men are always welcome and where no effort will be spared to aid them in getting the information they want."

Confiding in the newspaper men, and trusting in their good judgment as to the opportune time for publishing news, fosters this necessary coöperation.

Methods of preparing the material and of issuing it to the press vary, of course, according to the size and the nature of the locality, the size and kind of organization, the frequency with which news items develop, the amount of news, and the type of newspapers reached. One of the larger organizations outlines its practice in this branch of the work. Its report states:

"Because of the larger circulation of the Sunday newspapers and the greater attention given to them by readers in comparison with the week-day editions, special material was prepared for them; arrangements were made

* Abstract of report prepared in the second year work of the Graduate School of Business Administration, Harvard University. The report is based chiefly on material received from secretaries in reply to a questionnaire sent out by Professor Paul T. Cherington, and on replies to letters written by Mr. Marshall. The author also gives credit in his paper to certain material obtained from a report submitted at the 1914 convention of the American Association of Commercial Executives by Carl Dehoney, of Cincinnati, and Thorndike Deland, of Denver.

for the publication on Sunday of descriptive articles, usually illustrated with photographs, maps or diagrams. Most of these were prepared by the Industrial Bureau and were made up of information gathered in the survey which that Bureau is making of the city's industries. . . . The news of the Association was given out either in the form of articles prepared by the Bureau and distributed as occasion arose, or through . . . [the official organ], advance copies of which were sent regularly, with suitable letters to all the city newspapers. The more important news of the Association was given to the newspaper as soon as it developed, for publication on the same or the following day. Articles containing the information which it was desired to make public were prepared, duplicated by means of the neostyle, and distributed by messengers. Sometimes as many as three such articles were sent out in the same day.

"Whenever meetings were held where there were speeches, stenographers were employed to take the speeches as they were made and transcribe a sufficient number of copies for the press. These copies were distributed within a few minutes after the speeches were delivered. . . . Whenever information that seemed adapted to editorial comment was prepared, it was sent personally to the chief editorial writers."

Regular space, so necessary to sustained interest, is sometimes obtained in the local press by the commercial body. At least two commercial organizations in the United States buy space in local newspapers at regular advertising rates, for the purpose of publishing a miniature newspaper page dealing with those facts of their organizations which should be known to the public. Paid-for space seems to be the exception, however. Even where a regular column is carried by the paper for the organization, free space is the rule. The secretary generally conducts the department, to which from three-fourths of a column to nearly half a page is devoted. Such news appears daily, weekly, bi-monthly, or at other regular intervals, as a rule, in one of the local papers.

Official Organs of Commercial Organizations

The official organ, either as a supplement to newspaper publicity or as substitute, has been tried in all classes of cities by a variety of organizations. The publication interval ranges from weekly to quarterly, not including three specialized dailies issued under unusual conditions. On a canvass of the number of such official organs, records were found of over 140 published at present by different associations in the United

States. No apparent relation exists between the number of pages in organs and the size of the organizations printing them.

A consideration of the merits and the defects of organs as issued by commercial organizations involves an examination of these publications under such main heads as: (1) control and responsibility; (2) make-up and nature; (3) cost; (4) circulation.

Considerable diversity exists in the type of name used for these papers. The titles of 55 papers out of 121, nearly 50 per cent, fall into three groups: (1) *Bulletin*; (2) *Journal*; (3) *-er* and *-ian* names. Over one-sixth of the organs have miscellaneous names, no two alike. The following table classifies the titles of the official organs issued by these 121 commercial organizations:

Title	No. of Organs
Containing word "Bulletin".....	86
Containing word "Journal".....	10
The name of place with suffix "er" or "ian"....	9
"Greater (the name of the place)".....	4
"(Name of the place) Magazine".....	4
Name of the place.....	4
Name of the organization.....	4
Name of the place modified by a qualifying term	4
"(Name of the place) Spirit".....	3
"(Name of the place) Progress" or "Progress"....	3
"(Name of the place) Commerce".....	2
"(Adjective) Affairs".....	2
With word "Record" or "Recorder".....	2
"Optimist," alone or modified.....	2
"The (name of the place) Country".....	2
With term "Business".....	2
With term "Doings".....	2
Miscellaneous	26
Total.....	121

The opinions of secretaries as to what ought to be treated in an organ, and how it ought to be dealt with, indicate that no rules can be laid down, and that individual taste must govern. On almost every conceivable point opinions not only differ but directly conflict. Some favor making the organ a simple, condensed record of the organization's work. Others put the main emphasis on its "inspirational" possibilities. Some favor emphasis on the personal side; others consider this feature undignified. Thus through every phase of publicity, expressed via the organ, unassailable generalization is impossible.

Into a comparatively few groups the contents of these organs may be gathered. The items appearing in 75 of these papers were grouped under a few headings for the test: organization items, miscellaneous items, local items, items about the commercial organizations of the country, state items, na-

tional items and world items. An examination of these items shows:

- (1) That the items in the weeklies rank:
 - (a) Organization items
 - (b) Local items
 - (c) National or world items
 - (d) State items
 - (e) Miscellaneous items
 - (f) Items about other organizations
- (2) That the items in the fortnightlies rank:
 - (a) Local items
 - (b) Miscellaneous or national items
 - (c) Organization items
 - (d) World items
 - (e) Items about other organizations or state items
- (3) That the items in the quarterlies rank:
 - (a) Organization items
 - (b) Local items
 - (c) Miscellaneous items
 - (d) Items about other organizations or state items
- (4) That this is the rank of the items in the monthlies:
 - (a) Organization items
 - (b) Miscellaneous items
 - (c) Local items
 - (d) National items
 - (e) State items
 - (f) World items
 - (g) Items about other organizations

This analysis reveals the fact that there is not enough organization news in most cases to fill the organ, and that, even when local items are added, other classes of matter have to be drawn upon to fill up the empty space. Men want facts, ideas and pertinent information concerning organization work not furnished by the local newspapers and national periodicals.

Local items include matter concerning:

- (1) Persons
- (2) Transportation
- (3) Industry
- (4) Agriculture
- (5) Commerce
- (6) Banks
- (7) Social life
- (8) Charity and religious activities
- (9) Recreation
- (10) Civic work
- (11) Real estate affairs

Among the miscellaneous items are included:

- (1) Epigrams
- (2) Jokes
- (3) Poems
- (4) Repeated mottoes
- (5) Exchange matter
- (6) Quotations
- (7) Unclassified items

Regular departments appear in 27 of the 75 papers. In the weeklies the common departments are:

- (1) Editorials
- (2) Official notices

The uncommon departments of the weeklies are:

- (1) Contents
- (2) Other associations' notes
- (3) New members
- (4) Applications for membership
- (5) Articles on South American trade
- (6) Briefs about members
- (7) Executive committee

- (8) Package car service for the week
- (9) Finance news
- (10) Business locals
- (11) Fraternal news
- (12) Theatres
- (13) Metal quotations
- (14) The Register—points about members and visitors to city
- (15) Woman's place in building state
- (16) Business thought by leaders
- (17) Late inquiries

In the monthlies, these are the common regular departments:

- (1) Table of Contents
- (2) Officers, Directors and Standing Committees
- (3) Departments and Official Staff
- (4) Membership Directory
- (5) Index to Advertisements
- (6) Editorials
- (7) Meeting notices
- (8) Notes
- (9) Transportation
- (10) Statistics
- (11) Finance
- (12) Building operations
- (13) Other commercial organizations

The uncommon departments in the monthlies are:

- (1) In the Pit and on 'Change
- (2) Popular Talks on Law
- (3) The Secretary's Corner
- (4) Doings in the Pit in Futures
- (5) Grain Inspection
- (6) Price Table of Grain and Provisions
- (7) Receipts and Shipments at the City
- (8) Meetings during the month
- (9) Full-page photograph
- (10) Our Civic Progress
- (11) Work now in hand by the administrative forces
- (12) Minutes of the Executive Committee
- (13) Bureau of Information
- (14) Proposed sailing of ocean steamships
- (15) The city a quarter of a century ago
- (16) Current events
- (17) Industries
- (18) Current literature

The more pages there are in the official organ, the more apt it is to be divided into regular departments, considerable in number.

Conclusions

Certain general conclusions develop from the great mass of material examined covering the local printed publicity work of the commercial organizations of the United States. The "sustained interest" of the members and publicity in the community for the organization are the two objects of printed publicity. As a rule, the press is willing to cooperate as much as is required.

According to the testimony of the secretaries of the leading American commercial organizations, the utilization of the newspapers is very important, with many advantages. Informal, rather than formal, contact between the reporters and the secretaries is preferred as being more effective. In regular space some secretaries conduct

weekly news departments; in the heading for this department frequently appears a design or association seal such as appears on the organization's stationery.

"Individualize the copy for the newspaper" is the advice of the more progressive secretaries. The work of the smallest commercial organization can be helped greatly by the local newspapers. The people in small cities can be reached just as effectively as those in the largest city in the country by using the local press.

One of the endless disputes among commercial executives is over the question whether the various forms of gratuitous newspaper publicity thus described do or do not entirely render an organ unnecessary. Printed publicity, the secretary of one association with over 600 members in a town of 18,000 population declares, can be best promoted through the local newspapers rather than an official organ.

In computing the cost of both methods, the figures indicate that in point of cost as well as of circulation the advantage seems to lie with the intelligently used free newspaper space rather than with the official organ for most organizations.

The really valuable field of the weekly organ seems to lie exclusively among the larger organizations. For the monthly, the field seems to extend to smaller organizations. But the practical value of the monthly, except as a record of the organization's proceedings, seems not to be very well established outside of a few rare cases. Under ordinary conditions its usefulness seems limited in scope. Six causes generally contribute in whole or in part, as the secretaries testify, to this effect:

- (1) Restricted circulation;
- (2) The difficulty of obtaining enough pertinent association news of recent origin;
- (3) The duplication of free association publicity in the local newspapers;
- (4) The frequent attempt, perhaps unconsciously, to fill the place of other news mediums in the community and in the country;
- (5) The difficulty of keeping the paper up to a high standard attractive enough for it to be consistently read; and
- (6) The great expense of publication.

Notwithstanding these obstacles to success in many cases, there is something so alluring about the "official organ" idea that few organizations and still fewer secretaries seem to be content until they have experimented with it. Our figures show

that organs are now being published, with varying degrees of success, by organizations of all sizes in every kind of city. Most of these have started as monthly publications. In the smaller organizations the most common experience is that they survive only a short time. If they live at all, they become a monthly record of the organization's work and drop their other features. In the larger organizations the common history is that they develop into weekly papers, if they continue to live at all.

Local conditions vary so widely that constructive suggestions of general value are difficult. These figures, however, seem to establish doubt of the advisability of a commercial organization of less than 2,000 members issuing an official weekly publication. Available records show that, in ordinary cases, a four-page weekly will satisfy the requirements of 2,000 members, and that where the membership reached 3,500 or more an eight-page paper often seems desirable. Elasticity in the number of pages in the paper can provide for weekly contingencies. These conclusions, of course, are subject to modification by local conditions.

A careful examination of the official organs, in the light of the experience of the many organizations, leads to these broad conclusions:

- (1) The name of the publication is a matter of local choice, but that most commonly used is "Bulletin."
- (2) The United States registry laws for second-class mail matter require the setting aside from the membership fees of each member of a commercial organization a certain sum as subscription for the official paper published. Even in these cases where it is not desired to have the official organ admitted to the mail as second-class matter, a normal subscription charge of \$1 would provide some revenue for the support of the paper and at the same time aid in cutting down waste circulation.
- (3) Regular departments, though used successfully in some exceptional cases, may well be avoided, as their use encourages padded items in weeks when there is not enough news to fill the department space.
- (4) Most of the secretaries are very cautious about advertisements and use illustrations sparingly.
- (5) Careful secretaries try to avoid in their official organs local, state, national, world and miscellaneous news, recognizing the fact that other publications already cover these items.
- (6) The most successful plan seems to be to

print, in brief, only organization news and news about the activities of other commercial organizations.

To fit cases where commercial organizations do not think it advisable to publish a regular official paper, the use of a weekly post card notice to take the place of an official organ is suggested. On this card could be printed in 1-2-3 order brief references to important plans and undertakings of the week. Where the reader is anxious to know details too elaborate to be given in such a card, inquiry at the association office should procure the extra information needed. Every quarter there might be issued a detailed report showing the plans and accomplishments for the preceding four months. This combination of notice cards and periodical records of achievements

seems to cover most of the necessary ground in addition to free newspaper publicity for at least moderate-sized organizations.

Out of this analysis of the experiences in local printed publicity or organizations operating under almost every conceivable condition, two points stand out conspicuously:

1. The gratuitous coöperation of the local press has possibilities of enormous value.

2. The official organ is a costly method of publicity in the long run. The publication of such an organ should be undertaken only after a thorough examination of local conditions to establish its ability to do the necessary work of interesting the members and focusing public attention more effectively and more cheaply than any other available method.

A Record of Untiring Civic Service

By Mrs. Dudley W. Robinson

THE Women's Improvement Association, of South Pasadena, Cal., during sixteen years of unselfish work for the public good, has seen its charter membership of 31 increase tenfold.

At first the meetings of the organization were held in the homes of the members; later the assembly room in one of the churches was secured for this purpose, and still later, with further growth in usefulness and membership, permanent quarters were rented in Masonic Hall. From the

first a club-house was planned for, and it has now become a reality, as the accompanying views of exterior and interior proclaim. It is a modern, convenient building, well suited to its purpose. The original cost was \$10,800. The furnishings are costly and beautiful, and make the house a most attractive meeting place.

The club luncheons and meetings have become social and educational events. Delightful evening gatherings are held monthly, and are planned for the free entertain-



WOMAN'S CLUB HOUSE, SOUTH PASADENA, CAL.



INTERIOR OF SOUTH PASADENA WOMAN'S CLUB HOUSE

ment of all the people of South Pasadena. Musicales, lectures, dancing parties and other instructive and enjoyable events have taken place. A Dickens Carnival, held shortly before Christmas, 1914, netted nearly \$1,000 and put the Association on a gratifying financial basis.

The improvement work of the Association began in its first year, when an unsightly, weed-grown lot on Mission Street became a beautiful garden spot. The little park was kept up by the Association for several years, and when the Santa Fe Railroad took part of it for business purposes, the care of the park was taken over also. The El Centro School received a flag from the Association and the school grounds were laid out and planted. The drinking fountain beneath the oak tree on Meridian Avenue is the product of many months of planning and endeavor; it was erected in 1906 at a money cost of nearly \$400, besides much material and labor furnished by the people of South Pasadena, and is an attractive, shady resting-place from the ever-present sunshine.

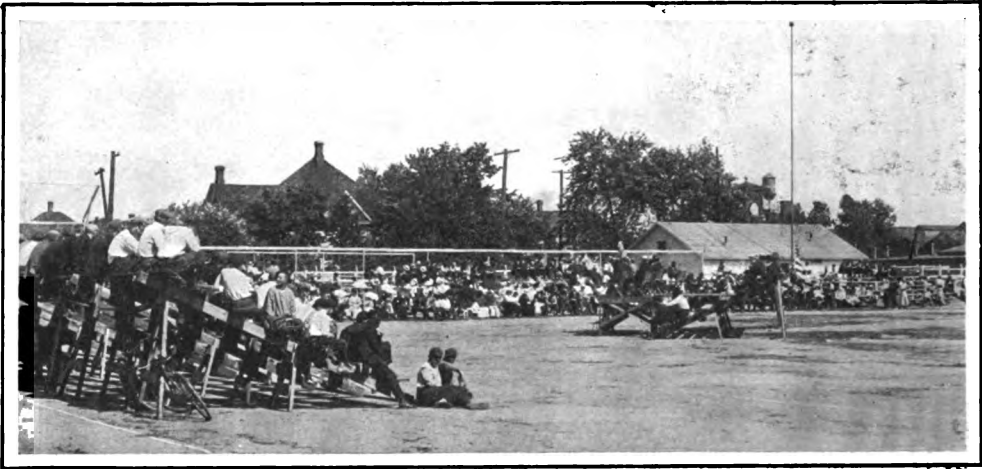
In conjunction with the W. C. T. U., the Association spent much time and money in getting the small charges of the Boys' and

Girls' Aid Society Home interested in living, growing things. Plants were provided and a gardener was hired to teach the children. Arbor Day exercises were first held in 1906, when many shrubs and trees were planted. Three years later a garden contest among the school children was inaugurated, and an exhibit of the products was held and prizes were given. In 1907 a rest room in the library was furnished by the Association, and some pieces of furniture were donated for the librarian's room, as well as a flag for the library building.

In coöperation with the Chamber of Commerce the Association has made an annual cleaning day a lasting institution. All the results of a thorough clean-up are hauled away free of charge through the courtesy of the City Council. This is in itself a large undertaking, and one that should be appreciated by every householder in a town where no other provision is made for free disposition of garbage and waste material. The Association has always been active in philanthropy and alert constantly to assist in making the town both healthful and beautiful, and with its excellent equipment it is now in position to do more effective work for South Pasadena than ever before.

PRIVATE GIFTS FOR PUBLIC PURPOSES

Under this heading THE AMERICAN CITY is publishing occasional articles regarding notable or unique gifts from individuals in behalf of municipal progress or social welfare. Photographs and information for this department are requested.



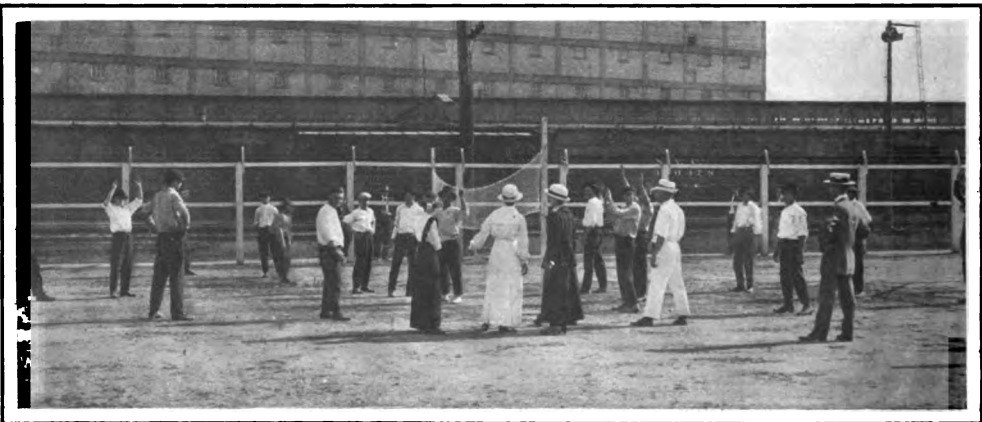
OPENING EXERCISES, J. D. OLIVER PLAYFIELD, SOUTH BEND, IND., JULY 3, 1915,
MAYOR FRED W. KELLER SPEAKING

The J. D. Oliver Municipal Playfield, South Bend, Ind.

A large playfield in the most congested section of the western part of South Bend has been made possible through the generosity of J. D. Oliver, of the Oliver Chilled Plow Works. The playfield consists of a tract of land of about five acres and was sorely needed. It is in the heart of the foreign population, located at the junction of the New York Central and Grand Trunk Railways and adjacent to the Oliver plow factory. By reason of its location, it is the

most important of any play space in the city. Mr. Oliver has given the city free use of the land for playground purposes.

The equipment of the new playfield, which was formally opened on July 3, consists of a quarter-mile running track; two standard baseball diamonds; tennis courts; volley ball courts; outdoor gymnasium; field house, with baths, etc.; indoor baseball diamonds, and has a division each for small boys and small girls.



BEING INITIATED INTO VOLLEY BALL AT THE OLIVER PLAYFIELD

Chambers of Commerce and Public Highways

The Importance of Promoting Public Education as to the Proper Construction and Maintenance of City Streets and Country Roads

An address delivered at the American City Bureau Summer School, in the Sage Foundation Building, New York, on August 6, 1915, by Arthur H. Blanchard, M. Am. Soc. C. E., Consulting Highway Engineer and Professor in Charge of the Graduate Course in Highway Engineering, Columbia University, New York City.

THERE are 2,300,000 miles of public highways outside of municipalities in the United States. There was expended during 1914 for the construction and maintenance of these highways \$200,000,000. A conservative estimate shows that at least \$50,000,000 was wasted.

Of the 48 states, 38 have highway departments. There are over 3,000 counties in the various states. The county and township highway work is in the hands of 100,000 highway officials. The 12,000 municipalities in the United States each has from one to twenty officials in charge of departments whose work pertains to highways.

In the states, counties and towns certainly not over five per cent of the highway officials possess the training and experience necessary to efficiently and economically perform the duties imposed upon them. With reference to municipalities and incorporated villages, the percentage may be increased to twenty-five.

The chaotic conditions and waste of public funds indicated by the above facts may be attributed primarily to three factors: first, too intimate relationship between politics and highway work; second, the attitude of the public; third, the status of the engineer in public life.

As this audience is composed of men familiar with public activities, a statement of the innumerable disadvantages resulting from the control of highway work by political appointees would be a repetition of platitudes.

The public neither appreciates the character of the duties of highway officials, nor does it take proper interest in the expenditure of its funds. The people must not only be educated with respect to the complex work for which highway officials are held responsible and the waste of public funds directly attributable to having high-

way work in the hands of laymen, but also they must be shown that engineers are broad-minded, well-educated men, capable of holding with credit the highest administrative office, and do not constitute a tribe of human beings capable only of running a transit, turning a lathe or wiring a house.

It is self-evident that politicians who reap the benefit of having their servants in control of public works will oppose the policy of educating the people. It is well known that many of these satellites, through either purpose or ignorance, place the personnel of highway organizations, the development of systems of highways, the employment of labor and the purchase of materials used in construction and maintenance, directly in the hands of political parties. Graft, waste and extravagance are coupled with this practice. It should not be lost sight of, however, that a considerable percentage of the waste of public funds on highway improvement is also directly attributable to laymen in control of highway work, whose intentions are of the best, but whose knowledge of the fundamental principles is so meager that it is impossible for them to carry out their good resolutions in an economical manner.

The engineer must explain to the public in the language of the people the work for which the highway official is held responsible; he must outline the necessary qualifications which the highway officials must possess in order to perform their duties efficiently; he must bring to its attention the evils of political control and the waste of public funds through ignorance, and he must outline methods by which efficient, honest, broad-minded engineers may be secured to hold throughout good behavior and efficient service the multitude of offices required to carry on the highway work of this country.

Lessons from Europe

As in the case of many public activities, it is practicable in connection with this problem to derive valuable suggestions from practice in foreign countries. The peoples of those countries are much older than the people of the United States. A review of their histories indicates that they have passed through the same transition period which we are entering. In France many years ago the people and the servants of the people realized the advantages accruing from the establishment of a permanent organization of efficient, well-trained highway engineers, and hence there was created the renowned Department of Roads and Bridges of France. Passing across the English Channel we find similar conditions in Great Britain. In order to secure a dollar's worth for every dollar expended, the British public realized that it was necessary to have in control of their public works men trained in a profession directly dealing with every economic and engineering phase of public improvements. It therefore inaugurated the practice of requiring that applicants for a given municipal or county position shall have attained the grade of membership in the Institution of Civil Engineers of Great Britain commensurate with the responsibility of the work of the particular office. Many leading municipal and county positions require that the applicant shall, first of all, hold the highest grade of membership in the Institution, while positions in small counties, towns and districts require in many cases associate membership.

It would seem desirable in this country that a step along the line of English practice might be taken, and in the case of positions of highway officials, require in the constitution of a state or the charter or ordinances of a city that the applicant should hold a certain grade of membership in the American Society of Civil Engineers and have had a certain number of years of experience in highway work.

Adequate Preparation Essential

In many cases the public demands the construction of hundreds of miles of highways in a short period without adequate preparation for the immense amount of work entailed. It is well known that the construction of a great mileage of highways

requires a large organization of thoroughly educated and experienced highway engineers and that such an organization cannot be developed over night. The millions expended annually in the United States on public highways have created such a demand for highway engineers that many months are required under even ideal civil service regulations to secure men having the proper qualifications. That a highway engineer encounters many obstacles in the development of an efficient engineering organization is known to all who have given the subject consideration. The people and the servants of the people are continually interfering in the legitimate work of the development of the highway department. As an illustration may be cited an unfortunate application of the worn-out residence qualification as contained in a provision of the New York highway law now in force, which requires that inspectors of construction shall be residents of the county within which the highway to be constructed is located. It is evident that it is impossible under this regulation to secure the most capable men from civil service lists; and, furthermore, in many cases an inspector of construction, who has had experience with the particular type of pavement which is to be built, is not available in the county where his services are required.

Many are familiar with the demands of the public and lay bodies that highways should be constructed without allowing the engineering organization sufficient time to carry on the investigations of local conditions which are absolutely necessary in practically every case if economical and suitable types of construction are to be built and the proper location, grading and drainage provided. In few instances is a fifth of the time granted which is required for this important step preliminary to the construction of a highway. To give some idea of the magnitude of the work involved by proper investigations will be cited the following factors which should be taken into consideration: location, topographical and geological structure, drainage, sub-grade, foundation, width, grades, present and probable future traffic, relation to the highway system, climatic conditions and the cost of available materials. It is obvious that an adequate investigation of all the above factors requires considerable time.

Foundations, Surfaces and Widths

The demand for mileage results in pressure being brought to construct cheap roads. In many instances the appropriations for given routes are not large enough to build the types of pavements required to carry the traffic to which these interstate and intrastate trunk highways will in a few years be subjected. In this connection may be cited the recommendation of the New York State Department of Efficiency and Economy that all sections of highways properly designated as state and county highways should be built upon cement concrete foundations, and, furthermore, that only first-class wearing surfaces, such as bituminous concretes, brick and stone block should be used. It is obvious that the acceptance of this recommendation would increase the cost of construction per mile, but it is likewise obvious that these wise recommendations would give the state, at the termination of the life of the bonds under which the highways are constructed—in this case fifty years—an asset of the grading, drainage and permanent foundations and, for at least twenty-five years, satisfactory wearing surfaces if properly maintained.

Without doubt state commissions have been unduly influenced, in the consideration of the requisite width of improved surface of many trunk highways, by the demands of the people for the immediate construction of many hundreds of miles of highways. Here again in the state of New York the State Department of Efficiency and Economy has presented recommendations which spell ultimate economy for the state. Its recommendations are to the effect that many of the trunk highways should be built with widths of improved surface of 18 and 20 feet, rather than only 16 feet. In this connection it is of interest to note that the Highway Committee of the American Society of Civil Engineers recommended several years ago that "Where motor traffic forms a considerable proportion of the total traffic likely to use a highway, the unit width of traffic lines should be considered as 9 or 10 feet, instead of 7 or 8 feet as heretofore, because of the greater clearance required for the safe passing of the units of such traffic." Furthermore, as far back as 1908 the First International Road Congress, held in Paris, adopted this resolution: "There should be but one roadway for every

kind of vehicle proportioned to the intensity of the traffic, 19 feet 8 inches (6 meters) wide at least."

It is, of course, well known that the main county highways of England have an improved surface of 20 feet and that the main trunk highways of France are practically 24 feet in width. When the rapid development of touring car and motor truck traffic and the development of motor-bus routes are given consideration, it is obvious that a greater width than 16 feet of surface suitable to travel upon is absolutely required. Few people realize the traffic to which our trunk highways will be soon subjected. As an illustration might be cited information furnished by the Public Service Commission of the State of New York to the effect that over one hundred motor-bus routes are to-day in operation within the state. In some cases the motor-busses carry as many as 40 passengers, have a horse-power rating of 75, weigh loaded as much as 8 tons, and have an overall width of 90 inches. It is well known to the traveling public that when meeting motor trucks and motor-busses having widths of nearly 8 feet, it is necessary, in order to avoid a collision on a 16-foot roadway, to turn out on soft shoulders. Accidents resulting therefrom are daily occurrences.

Funds for Maintenance

At last the people of the United States are beginning to appreciate the fact that in order that value should be received for the money expended in the construction of highways, it is necessary that the highways be efficiently maintained. Some method must be devised in order that the legislatures shall annually appropriate sufficient funds to properly and economically maintain improved highways. Legislature after legislature has followed the usual procedure of discounting the estimate submitted by highway departments. Hundreds upon hundreds of miles of state highways are to date improperly maintained, due, in many cases, to a lack of funds. The fact must be accepted that as years go on the financial burden of maintenance will be increased, due in part to material additions to the mileage of improved highways. It should further be borne in mind that if maintenance is curtailed in one year to the extent of \$500,000 and miles of highways are thereby

left unrepaired, the necessary appropriation in the following year to repair the damage to the highways not maintained may amount to \$1,000,000 or more. In other words, many types of construction wear very rapidly after they first begin to show signs of deterioration.

In conclusion, it should be emphasized that the primary objects of the educational campaign advocated are: first, the econom-

ical and efficient expenditure of the millions of dollars annually appropriated for highway work; and second, the appointment of members of the engineering profession to the innumerable positions of responsibility in public life which demand the combination of administrative ability, the broad judicial mind, honest character and the technical knowledge, training and experience possessed by engineers.

Increased Radius of Curb at Street Corners

By William M. Kinney

AT most street intersections the radius of the curb at the street corner is such that a motorist desiring to turn the corner finds it impossible to describe an arc of turn that will enable him to maintain a moderate rate of speed and still keep his machine on the proper side of the pavement while turning into the cross street. The radius of the curb curve is usually but little over a foot, hence the driver cannot commence to turn until he has practically passed the corner. Increasing the radius of the corner curve up to, say, 12 or 14 feet, will permit most types of cars to turn a corner at the same distance from the curb as when driving down the street.

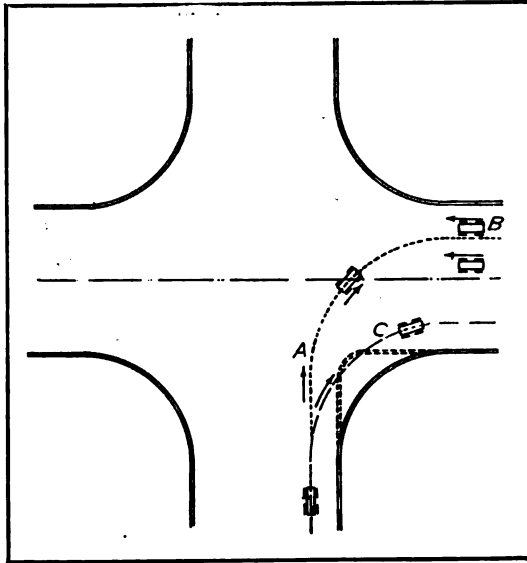
Changes such as suggested by the accompanying sketch have been made at several street intersections in Chicago, notably at Lincoln Parkway and Diversey Boulevard, and at Devon and Evanston Avenues.

How materially the possibilities of making the desired turn within the proper confines are facilitated will be seen by referring to the sketch. The double dotted lines show the curb at the usual street corner,

while the double solid lines back of these illustrate what has been accomplished at the two localities mentioned, the change at Lincoln Parkway and Diversey Boulevard being shown in an accompanying photograph.

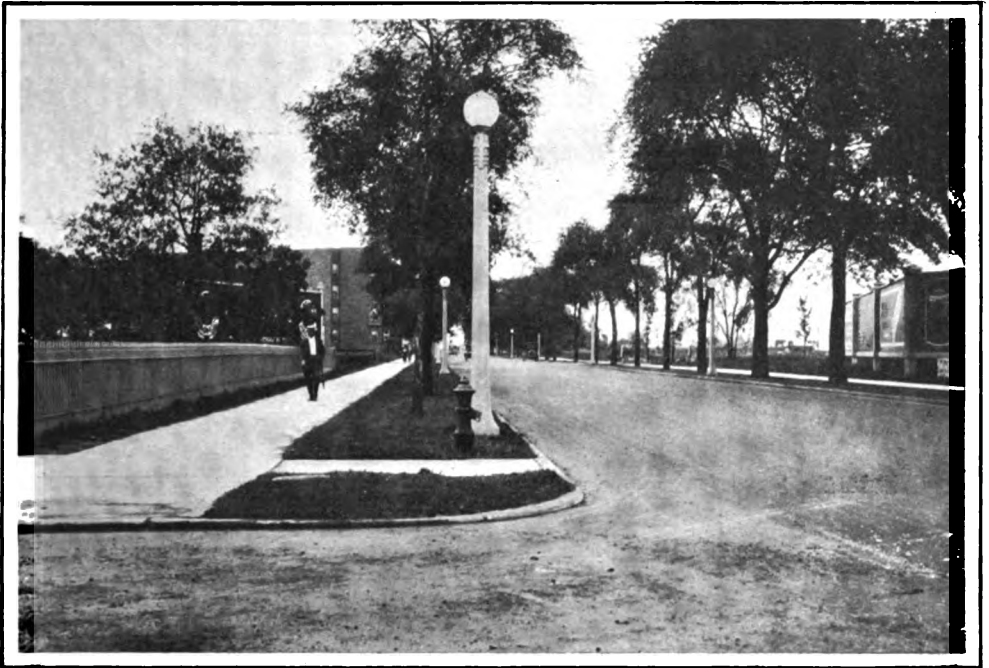
Without such construction a driver following the line *A* in the direction noted

by the arrow, and turning into the intersecting street, would have to cross its center line and could not pass two cars coming toward him as indicated by the arrows *B*. Increasing the radius of the curve, as shown by the solid lines, permits the driver to follow the arc of the curb and thus keep to the right of the center line of the street, where he properly belongs. This

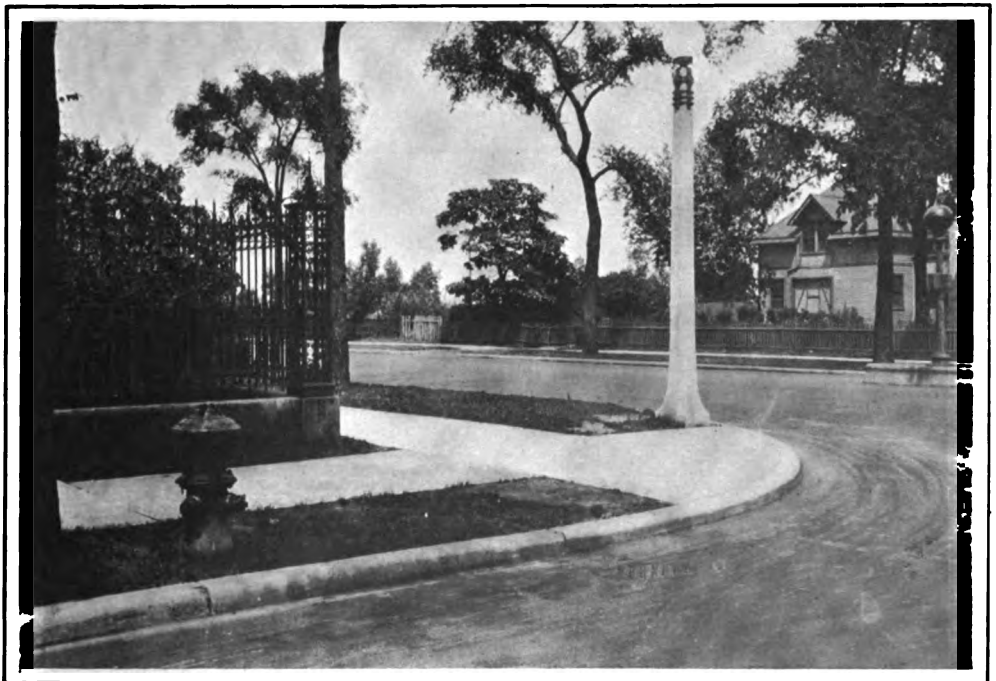


is clearly illustrated by the line *C*.

Such an improvement is particularly desirable on boulevards or where other streets intersect with boulevards. It is likewise desirable at intersections of narrow streets. This subject deserves the attention of engineers in charge of street improvements, and the practice suggested should be universally adopted, if for no other reason than to increase safety.



Concrete curb laid with a radius as shown in this picture does not permit the car to turn the corner within confines that will permit keeping it on the proper side of the street



This view shows how increasing the curb radius enables a car turning into an intersecting street to follow the curb curve. Wheel markings visible on the pavement in the photograph show this convincingly

Types of Highways and Pavements



A TYPICAL STREET JUNCTION IN THE RESIDENTIAL SECTION OF LYNCHBURG, VA.

Width between property lines, 60 feet; paved roadway of bituminous macadam, 24 to 30 feet wide; park space, 9 to 12 feet; sidewalks, $4\frac{1}{2}$ to 6 feet wide; concrete gutters 18 inches wide, with 6-inch concrete curbs.



CONCRETE ROAD, WILLIAMSBURG, PA.

Width between property lines, 54 feet; roadway, 24 feet wide, paved with Alpha Portland cement; 5-foot sidewalks; 10-foot parking strips; curbs 24 inches deep, with 6-inch face.



HOYT STREET, PORTLAND, ORE.

Paved with bitulithic. Total width between property lines, 60 feet; 12 feet from property line to edge of pavement; 36 feet from curb to curb; parking strip $8\frac{1}{2}$ feet wide.



CINCINNATI-HAMILTON PIKE, LEADING OUT OF DAYTON, OHIO

Length, $2\frac{1}{4}$ miles; width of roadway, approximately, 24 feet; paved to a width of 14 feet for the entire distance with Trimble vitrified shale paving block. On each side of the brick paving are concrete headers 8 inches wide and gravel berms 4 feet in width.

An Ordinance for Economical and Systematic Street Development

BY ordinance adopted July 13, 1915, Philadelphia has taken an important step forward in the application of common sense to street development. The new ordinance is the outcome of recommendations made to the Board of Surveyors of Philadelphia by a special committee consisting of Joseph Johnson, J. H. Webster, Jr., Charles F. Puff, Jr., H. M. Fuller and B. A. Haldeman. In its report the committee gives special emphasis to the importance of elastic street planning and to the advantages of adapting pavement widths to traffic needs. To quote in part:

"The modern tendency in street planning is toward a marked differentiation between streets intended for traffic uses and those for residential purposes. A primary system of wide streets for the former has become necessary to meet the constantly increasing demands for urban circulation; but few such streets are needed of their maximum width until long after their opening. During the period while they are growing in importance as traffic carriers, full width paving is not necessary; and the cost of construction and maintenance can be very greatly reduced by paving roadways and sidewalks for only such portions of their width as may be needed for traffic uses in the near future, leaving the unpaved spaces for grass plots and trees.

"Many planners advocate the establishment of widths of street sub-divisions in accordance with a system of units for the various kinds of traffic, the widths being based upon a unit of 8 or 9 feet for each line of vehicles, 2 feet for each line of pedestrians and multiples of the pedestrian widths for grass plots, the latter to contain rows of trees wherever desirable.

"It seems economical in establishing the widths of roadways upon streets which may be required to carry heavy traffic, with double tracks, to plan them for a certain number of lines of vehicles of the unit width between tracks and curbs, allowing at least 18 feet for a double line of street cars. This, in a street 80 feet wide, with a vehicle unit of 8 feet, would make the roadway width 50 feet. The unit standard should not be applied too arbitrarily, however, and 52 feet is suggested as the proper width for a roadway for six lines of travel, including two street car tracks.

"A roadway 52 feet wide is rarely needed in a street at the time of its original paving. Indeed, it is usually many years before such width is necessary for traffic purposes, and it is in the original paving of wide streets that the theory and economy of the elastic principle is best illustrated. A width of 36 feet would,

in a great majority of such streets, be ample to carry all traffic, including double track street railway, for a long period of time; and, except for some special reason, the roadway should be improved of this width with provisions for future widening. In the case of an ultimate roadway width of 52 feet, this would temporarily increase the planting width 8 feet on either side, and trees should be set back far enough to avoid disturbing them by future widening. The economy would consist in the difference in the cost of constructing and maintaining 16 feet of grass plot for an indefinite period, as against the construction and maintenance of 16 feet of unnecessary and unattractive pavement. Estimates of the cost of various forms of cross sections for streets varying from 50 to 150 feet in width, based upon 25-year periods, show a saving of from 30 to 50 per cent in the favor of the elastic street."*

The text of the new ordinance follows:

AN ORDINANCE

To provide for the more economical construction and maintenance of streets and a more uniform method of placing street improvements, by authorizing the adoption and approval of standard plans and cross-sections and requiring that street improvements be constructed in accordance with the locations shown thereon, and providing a method of enforcing compliance with the same.

SECTION 1. The Select and Common Councils of the City of Philadelphia do ordain, That the Department of Public Works, Board of Surveyors, is hereby authorized and empowered to adopt, approve and place on file in the Bureau of Surveys standard plans and cross-sections of streets showing the locations and widths for footways, roadways, planting spaces and rows of trees.

SECTION 2. No improvement of any kind, for which a location is shown upon the said plans and cross-sections or upon the plans filed as provided for in Section 4 hereof, shall be placed in any street except in the location so provided, and no Bureau or Department of the city, or public service or other corporation, company or individual shall place any such improvement in any street without having first obtained the proper location and the lines and grades from the Surveyor and Regulator of the District.

SECTION 3. In the event of the failure upon the part of any owner of abutting property to conform to the said plans in the setting of curb, the laying of footwalks, or the making of other improvements for the cost of which said owner shall be liable, the Bureau of Highways shall notify the said owner to reconstruct said improvement in accordance with the approved plan within thirty days, and upon failure to comply with said notice the improvement shall be reconstructed under contract by the Bureau of Highways and the cost of the same shall be charged against the abutting property and collected by the contractor in the manner now provided by law for the collection of assessment bills for street improvements.

SECTION 4. Whenever any street is to be improved by grading, curbing, paving, repaving, macadamizing, or other approved surfacing, or by the planting of trees, if, in the judgment of the Board of Surveyors the full width of the roadway as then confirmed is not immediately required and will not be required to

* Two plans for the application of the elastic principle to street widening in Philadelphia are illustrated in THE AMERICAN CITY for July, 1915, page 41.

accommodate travel and a temporary reduction in the width of said roadway is advisable and will result in economy of construction and maintenance, the said Board of Surveyors shall direct that a plan be prepared for its approval showing the proposed widths and locations of roadways, footways and other surface improvements in accordance with a standard cross-section, for a street of that width, adopted as authorized in Section 1 hereof and on file in the Bureau of Surveys; which plan, upon approval by the Board of Surveyors, shall be filed in the Bureau of Surveys as a supplement to the records of the confirmed plan and a copy of the same shall be filed with the Bureau of Highways, and the said plan shall be followed in making all street improvements.

SECTION 5. When, by reason of increase of travel,

the roadway of any street previously improved of the minimum width under the provisions of this ordinance shall be required of a greater width than that shown on the aforesaid plan in the Bureau of Surveys the Board of Surveyors is empowered to authorize and direct, by resolution, that the said roadway shall be widened to the lines as originally confirmed, the date of said resolution to be placed upon the plan. As soon as practicable thereafter the Bureau of Highways, when authorized by ordinance of Councils, shall re-grade, reset curb, pave, or repave and rebuild inlets on the confirmed lines; the additional new paving to be assessed against abutting property where legally chargeable.

SECTION 6. All ordinances or parts of ordinances inconsistent herewith are hereby repealed.

Efficient Budget Making*

By Herbert R. Sands

Of the New York Bureau of Municipal Research

WHAT does the word "budget" mean in your town? Does it mean only the annual estimates or requests for appropriations which your department heads submit to you each year? Or does it mean only the annual estimates of next year's income which you or your city comptroller or auditor prepares each year? Does your annual budget relate only to the future, or does it also reflect the past?

With Respect to the Past

With respect to the past, does your annual budget include a balance sheet showing all that your town owns and all that it owes, and a surplus or deficit account? Although a campaign for better municipal accounting methods has been in progress for several years, the fact remains that most cities are yet unable to produce a complete balance sheet. Obviously, a statement of the surplus which a city administration has accumulated or the amount of deficit which it has incurred is of equal informative value with the balance sheet itself. The directors of every successful private corporation, before proceeding to develop new financial plans, always have before them a complete balance sheet showing the amounts of the various classes of the corporation's assets and liabilities. They would not think of continuing business without such statements

periodically and regularly. The work of a municipal corporation is much more complex than that of a private corporation. How much greater, then, is the need for conducting its financial affairs with equal care and understanding.

With respect to the past also, does your budget include an operating statement—i. e., a statement of operations of the preceding year? Such a statement should always be included. It should set forth under proper functional classifications all of the revenues which have accrued during the past year and the expenses which have been incurred. Reports of warrants paid or cash disbursed have a real value when considering the city's liabilities or the need for borrowing, but nothing less than a statement of actual expenses will meet the needs of efficient budget making. By expenses is meant the cost of supplies actually consumed and services actually rendered for purposes of operation and maintenance during the period under review. A broader basis for judgment will be afforded if the expenses of two or more years are shown. In fact, the budget maker should not be content with statements of expenses alone, but should insist also on having statements of unit costs from every department with respect to every function and activity for which unit costs can be compiled.

With respect to the past also, does your budget include a fund statement showing (1) the unencumbered balances of appropriations which still remain available for

* An address to the recent annual Conference of Mayors and Other City Officials of the State of New York, at Troy, the slogan of the conference being "Efficiency First."

expenditures or application to the general fund to reduce the amount of next year's tax rate, and (2) the unappropriated balances of the city's current revenues which still remain available for appropriation? No budget is complete without such a statement.

With Respect to the Future

With respect to the future, does the budget of your town contain a work program, not only for the ensuing year, but also for the next two or three or even five years? Such a program or plan is desirable in order that plans projected or work begun any one year may not be left uncompleted at the end of a year. Just as it is necessary when building state or county highways to plan in advance a complete system, and then to adhere to it and build according thereto from year to year as money is made available, so is it important for a city when appropriating money for street extensions, park extensions or development, extension of health, sanitary or other social work, to make such appropriations according to a definite, preconceived and approved plan and thereby insure the completion of what is begun. A work program in your budget is desirable irrespective of the administrative term of your officials—whether it be one, two or four years, although the shorter the term the more essential is it to have such a plan in order that there may be a continuity of accomplishment from one administration to the next.

With respect to the future also, does your budget contain an estimate of expenses for the ensuing year? As already pointed out, the expense basis is the only logical and satisfactory basis on which to predicate an appropriation bill. Estimates of expenses for each function and activity of the several departments, set forth in a parallel column with the expenses of two or more past years, will afford a comparison and breadth of vision which will be of much assistance when deliberating on the budget. It is surprising, after all of the agitation for better budget methods, that even in a number of our larger cities requests for appropriations are still submitted without any basis of comparison whatsoever, either with respect to expenses or revenues.

With respect to the future also, does your budget set forth detailed estimates of revenue accruals? Instead of setting forth

merely the estimated amount of cash which will be collected during the ensuing year from tax levies, water rates and half a dozen other main sources, the budget makers should be furnished with detailed estimates of the various kinds of revenues and amounts thereof which will accrue during the coming year, and in parallel columns there should be clearly set forth the corresponding amounts which have accrued during the two or more years immediately preceding.

The annual budget should be the means whereby the city officials would render an accounting, not only to the legislative body which grants appropriations, but also to the public, with respect to the efficiency with which they have expended the appropriations granted them previously. The rendering of such a report enables the legislative body and the public to form better judgment concerning the requests which are submitted for further appropriations.

Need for Publicity

All city officials have no doubt experienced criticism from their respective publics because of appropriations which were or were not made at budget-making time. In a large proportion of such cases, the officials no doubt felt that such criticism was due to a lack of understanding or information on the part of the public. To avoid such criticism and also to get the power of public interest behind the administration program, it is essential that the public be taken into confidence frankly and completely at budget-making time. Nothing less will serve the purpose, because so long as star chamber proceedings are continued, just so long will the public remain skeptical. The annual budget-making period should serve to bring city officials and their constituents into a close working relation which will make for efficient results throughout the rest of the year.

Defects of Present Methods

Defect No. 1 is the general misunderstanding of the word "budget." To the average citizen and city official the word means only the annual estimates or requests for appropriations and the appropriations as made or adopted. This interpretation or conception is entirely too limited. Inadequate information is made available as a

basis for judgment in making appropriations. The efficient budget maker should see to it that all the statements which I have already mentioned are included.

Defect No. 2 is that, wherever the method is followed of making segregated appropriations, the administrative officials are handicapped. With several years' experience with the segregated appropriations in numerous cities to draw upon, the conclusion is evident that, although the plan has been of inestimable benefit in focusing public and official attention on budget methods, and particularly on the relations of expenditures to the preceding estimates and appropriations and thereby curtailing expenditures and forcing a detailed accounting of expenditures, it nevertheless has and does handicap the administrative official to an unnecessary extent. In short, the plan does not provide that flexibility which is essential for efficient administration.

Defect No. 3 is that the public is not taken into confidence of the budget makers. Although no reason exists for not having the fullest publicity of budget-making procedure, yet in many cities the entire matter is kept practically in the dark, so far as the public is concerned.

Defect No. 4 is that in some cities insufficient time is allowed for consideration of budget statements before the adoption of the annual appropriation bill. As a rule, department heads do not send in their appropriation requests sufficiently early, and even after such requests are received there is not sufficient time in which properly to analyze them, publish them, hold public hearings, and, in short, to have that full deliberation on the subject that is desirable. In some cities not only is there a failure to adopt appropriations until two or three months after the beginning of the fiscal year and after expenditures have already begun to be made, but even appropriation requests are not prepared or submitted until long after the year has begun. There are also other illogical arrangements of dates with respect to budget making which are unsatisfactory both from a political and administrative point of view. For example, in some cities the appropriation bill may be adopted by an outgoing administration after election and before the new administration assumes office, and the new administration be compelled to depend upon it throughout the ensuing year. What outgoing officials un-

der such a plan can do to handicap their successors is obvious.

How to Establish Efficient Methods

(1) A complete budget procedure for all departments should be drafted and the interest of all department heads therein should be secured. It is only by establishing team work and official enthusiasm that an entire plan of efficient budget making can be put through successfully. The draft of procedure should set forth clearly just what kinds of statements the budget shall include, and should specify dates, places, etc., which are incident to the realization of the plan.

(2) A central authority should be designated for the granting of allotments. The experience of every city official has demonstrated that it is impossible at the beginning of a year to foresee all of the contingencies which will arise during the year. Hence it is proposed that in making appropriations for a year that they be made not for each minor function separately, but for definite objects of expenditure, such as personal services, supplies, materials, equipment, fixed charges, etc., and that from time to time during the year—say quarterly or at six-month intervals—allotments of the annual appropriations shall be made to the several departments according to the functions and sub-functions of such departments. Appropriating in that way will afford all necessary control over expenditure—such, for example, as the control of personal service—and will establish a sound basis for purchasing, because it will facilitate entering into contracts for definite lines of supplies, material, etc., for the entire city as a unit and facilitate a financial saving thereby. As compared with the segregated appropriation plan, the combination of appropriating as indicated, and allotting by functions, will furnish an equal amount of accounting and administrative control and at the same time accord that flexibility which the segregated plan lacks.

The authority which is to grant the allotments will vary in different cities according to the kind of government—whether it is a commission-governed city, a unicameral or bicameral government, a centralized or decentralized executive, etc. Suggestions as to where the allotment authority should be vested for seven different forms of government are as follows:

Typical City.	Executive.	Legislative Body.	Supplemented by	Allotments to be Made by
1. New York	Decentralized.	Unicameral	Board of Est. and App.	Board of Est. and App.
2. Chicago & Pittsburgh.	Centralized . . .	Unicameral (Large as in Chicago or small as in Pittsburgh.)	Mayor.
3. Philadelphia	Centralized . . .	Bicameral	Jointly by mayor, chair man of finance committee and controller.
4. Springfield (Mass.) & Atlanta (Ga.)	Decentralized.	Bicameral	Administrative boards appointed by council or self-continuing . . .	Joint finance committee
5. Bridgeport (Conn.) . . .	Decentralized.	Unicameral	Administrative boards mostly appointed by the mayor	Mayor.
6. Denver (Colo.) & Portland (Ore.)	Decentralized.	Commission (Pure commission as in Denver, or commission including elected mayor, as in Portland)	Council (Commission)
7. Dayton (Ohio)	Centralized . . .	Commission	City manager	Council (Commission)

In New York the Board of Estimate and Apportionment is composed of the chief executives of the greater city and has practically full power with respect to revenues and expenditures. Therefore, it is logically the proper body to make allotments.

In such cities as Chicago and Pittsburgh, the mayor has most of the responsibility and should, therefore, be given facilities for achieving satisfactory results. Usually the mayor has a majority of council with him.

In cities where political conditions are as in Philadelphia, it will harmonize the different factions and make for better success of the plan if authority to make allotments is vested in a committee of three, comprising the mayor, representing the executive branch; the chairman of the joint finance committee of the legislative body representing the legislative branch; and the comptroller, supervising the technical features.

In Springfield and Atlanta the mayor is chairman of the joint finance committee, which is composed of five members representing both the legislative branches. Most of the boards are appointed by the joint legislative bodies—hence the joint finance committee would represent the judgment of the several executive authorities.

In such cities as Bridgeport, the form of government is really decentralized, inasmuch as the mayor is compelled to work through the several boards. However, the fact that he appoints such boards obviates the necessity for requiring anyone other than himself to pass judgment on allotments.

In Denver and Portland, the commission being both the legislative and the executive branches of the government, it is the only logical body to pass upon allotments. The latter would, of course, be submitted for approval by the respective commissioners.

The theory of the Dayton form of government is that the council (commission) shall act in a supervisory and advisory capacity.

This being true, the council should pass judgment upon the allotments submitted to it by the city manager.

(3) The procedure which has been drafted should be formally adopted by resolution or ordinance of the appropriation body.

(4) A bureau or division or staff should be established for the purpose of budget supervision—i. e., it should be the duty of some one or more persons attached to the central financial office or finance committee of the legislative body to oversee, audit, and supervise the budget-making procedure throughout the year and not have it be of mere mushroom growth each year.

(5) Install as rapidly as possible an adequate system of appropriation and property accounting, expense accounting and unit cost accounting.

(6) Devise, publish and formally adopt standard classifications of functions and of objects of expenditure, and then publish such classification in pamphlet form in order that they may be available in all city departments for requisitioning, auditing, charging, reporting, preparing estimates, etc.

(7) Devise standard forms on which department heads shall submit their budget statements, such forms to provide for showing all of the detail and all of the comparisons that it is desirable to have in the budget.

(8) Insist on adequate publicity methods.

The Engineer in Municipal Affairs*

By Manley Osgood

City Engineer, Ann Arbor, Mich.

CIVIL engineering in all of its branches is concerned with directing nature to man's use and convenience. In the municipality, man has come together *and organized* that he may have various conveniences which are not enjoyed by his brother in the rural districts. What organization could have more use for a man trained to direct nature's forces to man's use and convenience, or where could the civil engineer find a better field for his endeavor?

Early in the history of every city a competent engineer should be employed to devote his whole time and attention to the affairs of the city. Smaller municipalities should consult freely with the engineers of nearby cities or with consulting engineers on all matters of public service. The duties of the engineer employed by any city should be whatever he may find to do in the service of the people of the city, together with the keeping of such records of all that he does as will be intelligible to a man of like pursuits many years later.

In selecting their city engineers I would suggest that the larger cities should draw from the smaller cities, taking only engineers whose work has been of the highest class; and the smaller cities should depend upon the recommendation of successful engineers in the larger cities or in private practice. Cases in larger cities may be found when it is advisable to promote the assistant engineer to the vacant position of city engineer, but as a general rule the position of city engineer in a smaller city will better equip an engineer for the position in the larger city than will the subordinate position in the same city in which the vacancy occurs. Too much care cannot be exercised in selecting a good engineer.

For purposes of comparison, I gathered statistics from the various city engineers in Michigan cities ranging between 15,000 and 25,000 population. The results in several instances were appalling to anyone who realizes the value of engineering service to

the municipality. In one case a city of 15,000 to 20,000 people employed one man part time only at the sum of \$900 per annum, and allowed him one man to help when necessary at \$2 per day—the wages of a man without any intelligence. Other cases were nearly as bad. I know from my own experience that it is absolutely impossible for a city of this size to have even the most necessary engineering work done with such a department. And yet the tax rate in cities where such conditions prevail is higher than where adequate departments are maintained.

Politics should never enter into the appointment of an engineer, and your city engineer, once appointed, should hold his position as long as his work is up to a high standard. He should have the authority to hire and discharge his assistants. I have worked for a city in another state where the mayor appointed the city engineer and all of the engineering department employees. There was a complete change in the department every two years, for no mayor succeeded in holding office two successive terms. You can well imagine the result as far as efficiency was concerned. Each administration found few records and left few. There was no index or system of any kind and no incentive to make one, for it would hardly be completed before the maker would be replaced by the next mayor. The condition and accessibility of records are an excellent indication of the character of the engineering department in any city. These records should be the property of the municipality in all cases and maintained for the use of its people.

The engineer of to-day spends as long a time in preparing himself for the work that he is to undertake as does the lawyer or the doctor. Is he not then entitled to the same consideration? No city would attempt to conduct its affairs without the service of an attorney, but yet the lack of engineering advice is quite as costly as the lack of legal advice, and may be even more so. No man hesitates to call in a doctor when he thinks his life is in danger. The lack of engineering, also, may be responsible for the death

* From a paper read before League of Michigan Municipalities at Alpena, Mich., on June 25, 1915.

of one, or many, in places where the layman would suppose no danger lay.

One of the most important duties of the city engineer is to look as far into the future as it is given one to look. Your engineer has at his command a vast wealth of statistics and the experience of others in his periodicals and in the reports of officials in other places. The interpretation of these statistics and reports, in which the engineer is trained, gives to him a knowledge of what

results will follow certain conditions which cannot be had by the layman. The first cost of an engineering project is not to be considered in many instances in the light of the resulting costs to follow. Sometimes an affair which seems of very trifling importance to the layman, and is given only passing consideration, may become a matter of serious consequence in the not distant future.

Letters to the Editor

Should Legislation Precede City Planning?

To the Editor of THE AMERICAN CITY:

Thomas Adams' article in the May number of THE AMERICAN CITY has excited a good deal of comment out here, and I believe that a large proportion of the thinkers on city planning problems agree pretty generally with Mr. Adams' statement.

We are beyond the stage of merely talking about city planning and are ready to do concrete things. Ten years of experience as City Attorney of San Francisco has convinced me that the failure of much of our best civic effort is due to the lack of proper authority or to failure to secure legal status for such proposals as we may bring forward for the betterment of physical conditions in our cities.

Those engaged in public life soon must be convinced that there can be no beneficial growth of communities except along well-planned and well-ordered lines. Waste and disorder are certain to result from lack of plan in municipal administration. Sensible city planning contemplates every phase of municipal activity and produces economy and efficiency, while bringing into harmony the several departments of city government.

But to take the first practical step in any city to bring the municipal departments together is difficult. If we are to have it somebody's business officially to plan ahead for the city and to attempt to coördinate the executive departments, how far should this authority go and how be constituted?

It was to attempt such practical steps, dwelling always upon the sensible, and, if possible, logical, thing to do that some of us joined together to form the California

Conference on City Planning; and for these reasons also I felt impelled to accept the presidency of this organization.

If we look over the elaborate plans and reports of many of the cities in this country, we find very little as yet in execution. This, I think, is for the reason that Mr. Adams states—the plans being largely gotten up by committees without any public authority. While these estimable efforts have undoubtedly been of great educational value, we feel that hereafter it is possible to give legal status to further committee efforts that will command the attention of the actual city authorities and bring them into touch with a real city plan.

We have secured from the last legislature in California two new laws of great practical importance along the lines Mr. Adams suggested. The first is a law which authorizes the creation of an advisory city planning commission in every city, and which provides that all ordinances relating to any streets, franchises, buildings, or other matters affecting physical changes in the city, must be referred to this commission for a report before action by the city council. The second law requires that all maps of new subdivisions, either inside the city or within three miles of the city limits, must be approved by the city planning commission in the nearest city, if there be one.

While these are only two steps forward, the California Conference on City Planning feels that they will be of great service to the state. When our next conference meets in September, further matters of legal authority are to be taken up and thoroughly discussed.

This state is certainly indebted to Daniel H. Burnham, E. H. Bennett, Charles Mul-

ford Robinson, John Nolen and the other great city planners of the country who have made plans for California municipalities. We are also anxious and insistent that the proper legal authority be secured to put some of these splendid schemes on a practical basis of execution.

PERCY V. LONG,

President, California Conference on
City Planning.

San Francisco, July 28, 1915.

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Ownership of Water Meters

To the Editor of THE AMERICAN CITY:

The article on "Privately-Owned versus Publicly-Owned Water Meters," appearing in the July issue of THE AMERICAN CITY, was interesting to me because it contained an element of economical city administration. Every municipal student or worker is endeavoring to obtain efficiency and economy, and the means by which they can be accomplished is a secret that requires much time and thought.

In considering the question, "Who shall own the water meters?" it is approached, of course, from the standpoint of the city's welfare. The question then naturally arises, What is the function of the water meter? This question can be satisfactorily answered by assigning to the water meter a twofold benefit—conservation of supply and justly equalized rates. The water meter of to-day is regarded by many towns and cities that have a scanty water-supply as indispensable, and its economical value is almost universally approved. Its mission is well founded, having been forecasted in these words, "and they shall eat bread by weight and care, and they shall drink water by measure." Now, who should be the owner and custodian of the measure? The town or the city reserves the right to say, and it should be determined by the economical advantages to the public treasury.

Possibly the only and chief fact in favor of private-owned water meters is the investment of first cost and upkeep. Should all other things be equal, a solution would be easy and this fact alone would settle the matter. But to be weighed against this fact of investment is the important and the inestimable fact of management, control and responsibility of the water meter.

If the water meter is privately owned, it would be highly improper to trust the care

of it to the owner and to place the care of it in the hands of the municipality would involve a division of responsibility. Such a division gives rise to much trouble, expense and loss. The kind of meter and the price to be paid for it cause trouble. Unless the municipality assumes the buying, cheap meters and speculation exist; and in case the municipality does the buying, it must necessarily be responsible for the meter. Where a citizen has to bear any expense imposed upon him by the municipality, he has no personal opportunity to know about the correctness of the charge and as a usual thing honestly doubts it. He does not want to pay any more than any other citizen, and it is impossible to have all meter bills alike. The cost of installation will differ as well as the upkeep, in which case he will usually say he was given an inferior meter. He also thinks the charge is too much and the city is at fault. The troubles that arise from such an arrangement are too numerous to mention. No charge of any kind should be made against tenants, but against property owners. The cost to a municipality to carry out effectively and efficiently private ownership is very great.

The city of Staunton has had about ten years of experience with water meters and has now principally only three different makes. The city owns and installs the meters free of cost to the property owners. They are placed on the walkway just inside the curb lines. They are entirely protected against frost or any other damage and are always accessible to the city officials. The meter has been a great thing for Staunton and is sought after by its citizens. A plan to meter every service pipe is being carried out by putting in a certain number of meters each year.

City government is for the benefit of the citizens, and it should be so managed and administered as to bring to them the greatest good with the least burden. Under proper management, citizens soon learn that they are being served and that their welfare and comfort are properly looked after, with no trouble to them.

That the city own the meters appears to me from experience to be better for the manufacturer, citizen, city and everyone concerned.

S. D. HOLSINGER,

General Manager, City of Staunton, Va.

July 28, 1915.

The City and the Feeble-Minded

The Bureau of Municipal Research of Toronto, Ontario, publishes a well-edited bulletin, entitled "Citizen Control of the Citizen's Business." The theory of the Bureau is that Toronto's citizens can control Toronto's affairs only through "frequent, prompt, accurate and pertinent information with regard to Toronto's business." A recent issue carries on its first page the following striking question:

ARE ALL CHILDREN ALIKE ?

The bulletin emphasizes the childish manner in which cities ordinarily approach the problem of their feeble-minded and normal backward children. A "Catechism About the Feeble-Minded," by Dr. Helen MacMurchy, is quoted in full, as follows:

"1. *Why should I read this catechism?* Because I am a Canadian and because I pay taxes.

"2. *Who are the feeble-minded?* Those whose minds are the minds of children, no matter how old they may be. They cannot learn properly at school, their minds are always undeveloped, they cannot control themselves, cannot manage their own affairs, cannot earn their living unless continually directed and supervised. They form a large proportion of the unemployed, the unemployable, the dependents, the 'ne'er-do-weels,' the paupers, the prostitutes, the criminals.

"3. *Where are the feeble-minded?* In our Public Schools, Separate Schools, Industrial Schools, Homes, Refuges, Orphanages, Hospitals, Houses of Industry, Industrial Farms and all other charitable institutions—in our Gaols, Prisons, Prison Farms and Penitentiaries—and at large in the community.

"4. *What is the number of the feeble-minded in Canada?* About two or three per 1,000 population.

"5. *Is the number of the feeble-minded in Canada increasing, and if so, why?* Yes. Because feeble-minded persons have many children, and because there are some feeble-minded immigrants.

"6. *Could the number of feeble-minded persons in Canada be prevented from increasing?* Yes. Permanent care of the feeble-minded from an early age would prevent the natural increase, and a stricter medical examination of immigrants in the country from which they come as well as at the port of entry would prevent increase by immigration.

"7. *Who supports the feeble-minded?* You do. You pay School Taxes and Municipal Taxes. You subscribe to charitable institutions. You belong to some benevolent society. You help with relief work. You pay the cost of the administration of justice, the upkeep of penal institutions and the salaries of school, sanitary, municipal, police and all other officers and officials. It is a big bill.

"8. *Can the feeble-minded earn their own living?* Many of them can almost or quite earn their own living, if trained, and if cared for and supervised in a suitable institution, the only place where they are ever really happy. Almost all of them can be taught to do something useful.

"9. *What is the cause of feeble-mindedness?* Heredity is the cause in about 80 per cent or more of all cases. Four out of every five feeble-minded persons had one or more feeble-minded parents, or grandparents, or both. In one out of five cases the cause is accidental or unknown as yet.

"10. *Can feeble-mindedness be cured?* No.

"11. *Can feeble-minded children and young persons be trained, improved and made useful and happy?* Yes.

"12. *Why should we care for the feeble-minded in Canada?* Because we that are strong ought to bear the infirmities of the weak. Because it costs less to care for them than to neglect them. Because if we don't they will leave behind them so many feeble-minded children that it will be bad for Canada. One feeble-minded man and one feeble-minded woman, born in Ontario and married in Ontario, have had ten children, all feeble-minded.

"13. *Who will help me to care for the feeble-minded?* Your School Trustee, who has the direction of the Teacher, the School Nurse and the School Medical Inspector.

"Your Warden, Reeve, and Council.

"Your Mayor and Alderman.

"Your Member of the Legislative Assembly.

"Your fellow-citizens, your friends, your neighbors, your family.

"Yourself.

"14. *What should we do for the feeble-minded, both for their sake and for the sake of the country?* Have Medical Inspection of schools so that we may know where our feeble-minded children are. (Toronto, of course, has a Medical Inspection Department.)

"Have auxiliary classes for all children who are backward, so as to get them forward, if possible, and to find out why they are backward. If it is found that the reason of retardation is feeble-mindedness, then they need special training.

"Have Training Schools and Homes for feeble-minded children.

"Have Industrial Farm Colonies where adult feeble-minded persons may earn their living and be safe and happy and be prevented from being a source of evil and expense in the community."

How Filtration Plants Work

Excerpts from a New Book on "Water Purification Plants and Their Operation"*

By Milton F. Stein

Assistant Engineer, Cleveland Filtration Plant

The Theory of Filtration

FILTRATION is a combination of several processes. The most obvious of these, although not the most important, is the straining out of particles too large to pass the interstices between the sand grains. However, as most of the particles of suspended matter are so small as to readily pass through these spaces, it is obvious that other processes must be acting to remove them from the water. The small pockets formed by adjacent sand grains act as minute sedimentation basins in which the suspended matter may settle. Bacterial action plays a most important rôle. After a filter is in operation for a time a slimy gelatinous film forms on the surface and explorations into the sand will show similar jelly-like matter forming between or coating the sand grains. Examination will show this jelly to be of bacterial origin, as is also shown by the fact that it forms when filtering clear waters. The surface coating has been named the *Schmutzdecke* (dirt cover) by the Germans, who attribute most of the efficacy of the filter to its action, and place so much confidence in it that they consider a sand bed a foot thick sufficient, if properly coated, to yield a satisfactory effluent. The *Schmutzdecke* probably retards much of the suspended and colloidal matter, but the bacterial jelly *within* the sand is also important, both because of its straining effect and because it entraps and holds particles of silt and bacteria on the "sticky-fly-paper" principle. The efficiency of a filter increases with age, due to continued bacterial growth and the resulting formation of slime and jelly in the interior. This jelly-like matter is capable of absorbing color from the raw water and may effect a reduction up to 25 per cent. There is also a small amount of chemical action

within the filter, in the way of oxidation of the dissolved organic matter contained in the water.

While a properly working filter bars the passage of practically all the bacteria in the raw water, a considerable number may sometimes be found in the effluent. It has been proven by experiment that these result from growths in the sand and underdrains, and also that they are harmless varieties.

Slow Sand Filtration

This process is of English origin and dates from about 1830. From England it was disseminated throughout the Continent, where it is now widely used. In America it has found extended use in the older installations and in the purification of the supplies of large cities, although of recent years the mechanical process has become an important competitor in plants of large size, and has far outstripped it in the case of supplies for smaller towns.

A general view of a typical slow sand filtration plant is shown by Fig. 1. It consists of duplicate sedimentation basins *d-d*, the filter units *g-g-g*, the office and laboratory *e*, and various auxiliaries.

The water is drawn from the river through the intake *a*, and pumped to the sedimentation basins by low-service pumps in the station *b*, entering the basins through a distributing grid of pipe which may terminate in the aerating risers *c-c-c*, to remove obnoxious gases from the water and distribute it uniformly across the basins. It is sometimes desirable with turbid waters to use coagulants to assist in clarification, in which case the necessary apparatus, similar to that used in mechanical filtration, is installed in the building *e*, which is enlarged for that purpose and for coagulant storage. The size of the basins is dependent on the amount and fineness of sediment in the raw water, the period of sedimentation being generally from four to twelve hours. In filtering clear lake water, where the removal of bacteria is the main object, the

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sedimentation basins may be omitted entirely.

After passing through the basins the water is collected by the inlets of the pipe manifold at the lower end, which is connected with the settled water main extending through the *court* between the two rows of filters. Branches from this main lead to each filter, terminating within the filter in a float valve which maintains a uniform depth of water over the sand.

The filtering medium consists of a bed of clean quartz sand *h*, of a size of grain approximating that of granulated sugar. In technical terms it has an *effective size** of about 0.3 to 0.4 millimeters and a *uniformity*† coefficient of about 1.5. The depth of sand bed is generally from 3 to 4 feet in a new filter, decreasing as the dirty sand is scraped off with continued use. This sand is underlain with a foot of gravel *i*, so graded as to increase in coarseness toward

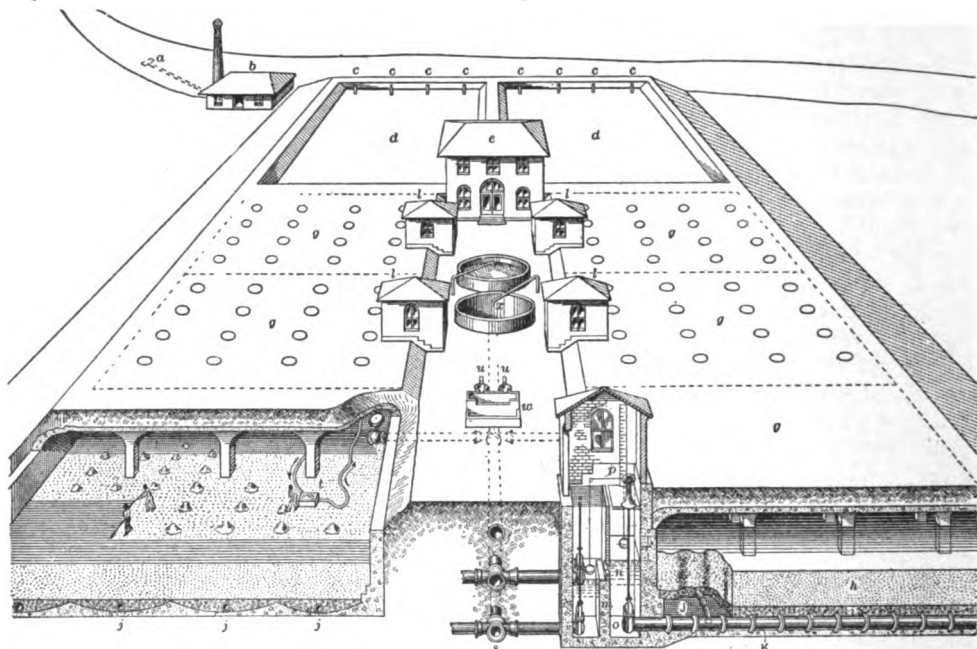


FIG. 1.—GENERAL VIEW OF A SLOW SAND FILTER PLANT

Each filter consists of a water-tight basin of masonry or reinforced concrete, generally roofed over with a groined arch construction supported on columns, the whole being covered with several feet of soil and sodded, as an additional protection against freezing of the water, which materially affects the efficiency of filtration. Covering the filter also prevents the formation of algæ by excluding the light necessary for their growth. Access to the interior is provided by an inclined runway and by numerous double-covered manholes in the roof, which also furnish the necessary light and ventilation for carrying on work in the filter. The area of these filter units is from one-fourth to one acre or more, depending on the total capacity of the plant.

the bottom. The function of this gravel is to prevent the sand from being washed into the collector system with the filtered water, and to allow ample water passages through which the filtrate can flow to the collecting pipes. Open-jointed tile pipes, *j*, from 4 to 8 inches in size, rest on the filter bottom, buried in and surrounded by the gravel. Generally one such collector pipe serves the area between two adjacent rows of columns, and carries the filtered water to the main collector *k*, which is placed through the center of the filter unit.

It is most important that the filtration proceed at a uniform rate, and to this end

* The *effective size* of a sand is that size of sand grain than which 90 per cent of the grains are larger.

† The *uniformity coefficient* is the ratio of the size of sand grain than which 60 per cent is finer, to the effective size.

each filter unit is provided with a regulator house *l*, the lower portion of which forms a water-tight well containing the regulation mechanism. The arrangement shown, used in the Albany plant by Mr. Allen Hazen, will illustrate the general principle of regulation, although not of the most recent type. It does not profess to operate automatically, and therefore will better serve to emphasize the attention required to maintain a uniform rate of filtration, even by more recent "automatic" types. The well is divided into two parts by a concrete diaphragm, *m*, and by tight wooden stop planks above the diaphragm. The filtrate, collected by the main *k*, flows into the first compartment of the well through the valve *o*, rising therein to a height lower than the

arranged, indicate the loss of head through the filter. A valve and drain pipe are provided, leading to a main drain for emptying the filter.

Mechanical Filtration

The primary difference between rapid or mechanical and slow sand filtration is in the higher rate used in the former process—100,000,000 to 150,000,000 as against 3,000,000 gallons per acre per day, or about 50 to 1. This high rate necessitates relieving the filters of the burden of removing

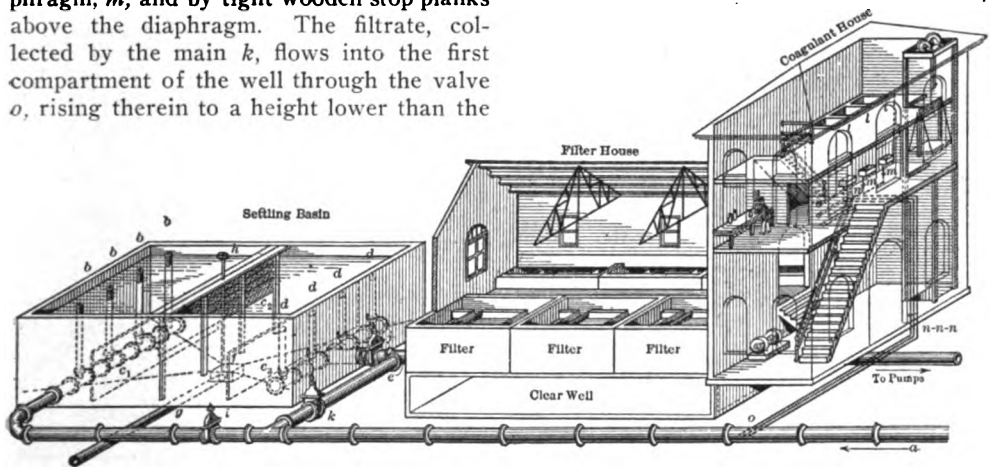


FIG. 2.—GENERAL VIEW OF A MECHANICAL FILTER PLANT

water level over the sand by a distance *r*, representing the friction of the water through the sand, gravel and under-drain system or "loss of head" through the filter. The water flows through the orifice *n* into the second compartment of the well, and thence through a valved branch pipe to the main, *s*, which carries the effluent of all the units to the filtered or "clear" water basin, ready for delivery into the distribution system. The rate of flow through the orifice *n* is a function of the difference in water level between the two compartments of the well when the orifice is submerged, and a function of the water level in the first compartment when that in the second is below the bottom of the orifice. By arranging a float in each compartment so as to indicate this difference in water level on a dial, the rate of filtration may be determined from the reading of the dial, and can be regulated to the desired amount by means of the graduated valve *o*. Two other floats, similarly

coarse suspended matter, which is accomplished by coagulation and sedimentation. It also follows that, as the rate of clogging the sand varies directly with the rate of filtration, the filter beds must be cleaned daily, and of necessity this must be done *in situ*, to avoid a laborious removal and replacing of the sand. Since there is no time for the formation of a *Schmutzdecke* by natural biological processes, a substitute must be applied in the shape of a jelly-like film, or "mat," of coagulum, which forms with great rapidity on starting the filter after cleaning.

Fig. 2 shows a typical rapid sand filtration plant. The general similarity, in parts and arrangement, to the slow sand plant is readily grasped. The most striking feature is the contraction or concentration of the whole plant as compared with the slow sand type. The settling basin is present as before, but is often deeper and of a different type of construction and more thoroughly

baffled. The office and laboratory building remains, containing also the coagulant apparatus and storage, for which reason it is frequently called the "coagulant house or building." The *court* between the filters assumes a different shape, though maintaining its functions, by being divided into a lower story or *pipe gallery*, containing the piping, valves and regulating devices, and an upper *operating platform*. We may imagine the individual regulator houses as expanding and merging into one continuous structure over both the former court and the greatly contracted filter units, their former locations being indicated only by the remaining characteristic groups of valve stands on the operating platform.

The advantages of this new arrangement as regards ease of operation and access to all parts are easily seen. The whole filtering area is under the eye of the operator; he may examine the distribution of the raw water and its quality at all points. By manipulating a few valves he may drain any unit sufficiently to examine the sand surface and mat in a very short time. The tendency toward vertical stratification of the sand is nullified by the small area, and a uniform horizontal hydraulic grading of the sand bed is maintained by frequent washing. The capacity of the units is generally less than those used in slow sand filtration, so that the effluent may be more closely controlled by individual samples, and any defective unit can be shut down immediately, with small loss of pumped and coagulated water, and the fault can be found and corrected with a minimum of labor. The formation of the mat, or artificial *Schmutzdecke*, can be controlled as to consistency and thickness by applying coagulants directly to the raw water in the filter after washing.

Two important differences in the theory and operation are these: bacterial growths in the filter bed are not required, owing to the artificial mat formation; therefore the beds may be sterilized by adding hypochlorite to the settled water and the presence of "after-growth" bacteria in the effluent done away with. *Negative head* in the sand bed, so scrupulously avoided in slow sand filtration, is featured in the rapid process, as decreasing the necessary depth of filter tubs and tending toward a uniform distribution of rate over the bed. This is

possible because the filters are washed so frequently as to minimize the chance of sufficient air being liberated within the bed to affect the operation.

The settling basin shown in Fig. 2 is constructed of reinforced concrete, of a type frequently adopted where land is limited or expensive, as the vertical side walls give a maximum capacity with the least area. A basin similar to that shown in Fig. 1, with earth embankments, is less frequently used for mechanical filter plants. The water enters through the inlet manifold, terminating in the risers *b-b-b-b*, which may extend above the water, acting as aerators as shown, or not, according to the conditions to be met. The basin is provided with baffles, *C₁-C₂-C₃*, whose function it is to prevent undercurrents and to maintain a uniform flow throughout the basin. After passing through the basin the water is collected by the risers *d-d-d-d* of the outlet manifold and carried to the filters through the settled water main *e*.

The floor of the basin is of smooth concrete with a decided pitch from all sides toward the center, where a sump *f* is located. In this sump is a drain valve operated by a handwheel *h*, by means of which the basin may be emptied for cleaning through the main *g*. After being emptied, the remaining mud is washed out through the drain by means of a hose. Fig. 2 shows a single basin, which necessitates either shutting down while cleaning, or by-passing the water directly to the filters by closing valves *i* and *j* and opening valve *k*. Many plants have duplicate basins, one of which may be cleaned at a time without interference with the operation of the plant.

The coagulant house shown is three stories high. The first floor forms the main entrance to the filter house, contains the wash water pumps, air compressor, receiving room and storage for coagulants, stairway to upper floors, etc. The second floor contains the combined office and laboratory, the solution tanks *l-l-l* and orifice boxes *m-m-m*, from which pipes *n-n-n* carry the coagulant solution and discharge it into the raw water main *a* at *o*. Sometimes additional coagulant pipes are provided, so that the coagulants may be introduced at the center baffle of the settling basin, *C₁*, or into the settled water main *e*. The third floor is on a level with the tops of the solu-

tion tanks and is used for charging these and for coagulant storage. It also contains a scale for weighing chemicals and the stirring apparatus of the tanks. An elevator or hoist is installed, serving all floors, but primarily for carrying up barrels and sacks of coagulant to the third floor.

Fig. 3 shows the section of a modern concrete filter house. It will be seen that the filters are in two rows, with the pipe gallery and operating platform between them, and a sub-basement for filtered water storage below, making a very compact and economical arrangement. The water from the settling basin enters the pipe gallery through the settled water main *e*, extending the length of the gallery with a valved branch to each filter. The level of the water on the filters may be regulated by float valves attached to the ends of the settled water inlets, as shown in the

troughs by opening the sewer valve *s*, Fig. 3. Assuming the filter to be piped for air, the compressor is then started and the air valve *t* opened, admitting compressed air to a grid placed just below the surface of the filter gravel, which distributes the air uniformly through the sand bed by means of minute perforations in the pipes of the grid. The purpose of the air is to loosen the sand, mix it, and remove dirt by the abrasion of the sand particles. After three to five minutes of air washing the air valve is closed and the wash valve *u* is slowly opened. Filtered water flows from the wash-water pipe *v* through the collector system and upward through the strainer openings, which are proportioned to give a uniform upward flow over the area of the filter. The wash water flowing upward through the sand thoroughly cleanses it and grades it hydraulically,

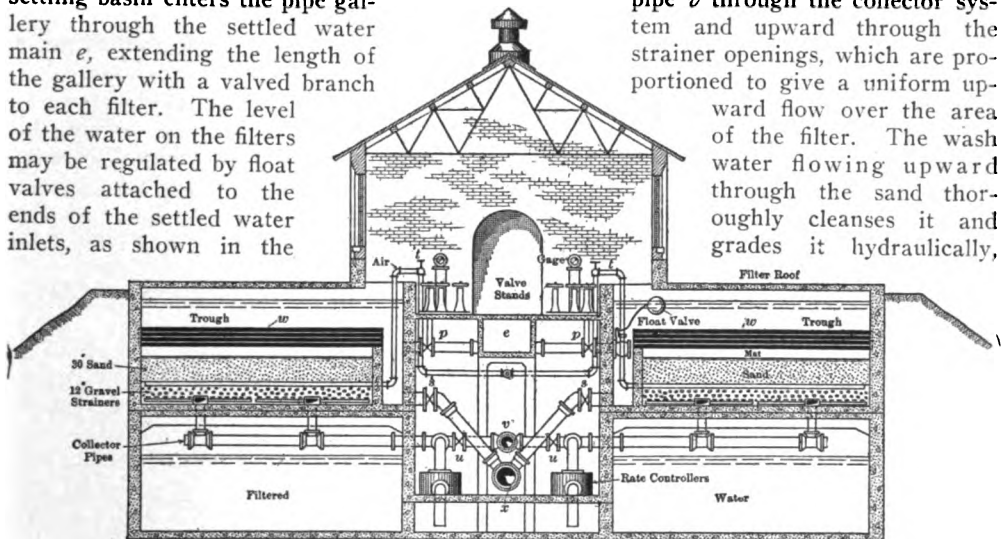


FIG. 3.—SECTION THROUGH FILTERS AND PIPE GALLERY OF A MECHANICAL FILTER PLANT

right-hand filter, or the level for all the filters may be fixed by an overflow pipe in the settling basins.

The filtering material through which the water passes consists of a 30-inch layer of sand similar to that used in slow sand filters in quality, but slightly coarser (effective size 0.4 to 0.6 mm.). In operation it is covered with a mat or film of coagulum. The sand rests on about a foot of graded gravel, generally increasing in size from one-eighth inch at the top to three-quarters inch at the bottom. The gravel in turn is supported by perforated brass strainers, through which the water passes to the collector pipes below.

In washing a filter it is first shut down by closing the settled-water and effluent valves *p* and *q* and draining it to the top of

the dirty water escaping by means of the wash troughs *w-w* and sewer outlet to the sewer *x*. After the sand is clean the filter is again put in operation. Washing requires about 12 to 15 minutes per filter.

Wash water may be obtained by tapping the wash-water pipe into a pressure main, obtaining the required pressure by means of a reducing valve. This involves a waste of pressure and there is also danger from water hammer in the high-pressure mains, due to chattering of the reducing valve. A better way is to have duplicate centrifugal wash pumps drawing from the clear-water basin and discharging into the wash-water main at the proper pressure, or, better yet, to have the pumps discharge into an elevated tank of proper height and dimensions to insure a uniform pressure.

A Brief for Municipal Home Rule

THE Citizens Union of the City of New York has prepared in pamphlet form a statement of the fundamental principles of municipal home rule advocated by its Committee on Constitutional Convention. The twelve principal headings, each of which in the pamphlet is accompanied by explanatory matter, are as follows:

1. The Constitution should contain a broad grant of general powers to municipalities.

2. For purposes of enumeration merely, and not of restriction, the language of the grant of power should contain illustrative particulars.

3. It should be provided that municipalities are presumed to have such powers within the general grant as are not denied to them by the Constitution.

4. Municipalities should have the power to adopt their own charters upon approval by the electorate.

5. There should be a self-executing provision for the drafting and adoption of charters by municipalities in addition to any method prescribed by general law.

6. The effect of a municipal charter so adopted or amended should be to supersede all previous law of a character which regulates local matters in a manner not per-

mitted to the legislature under the powers reserved to it by the new Constitution.

7. Special legislation in regard to local affairs should be totally prohibited.

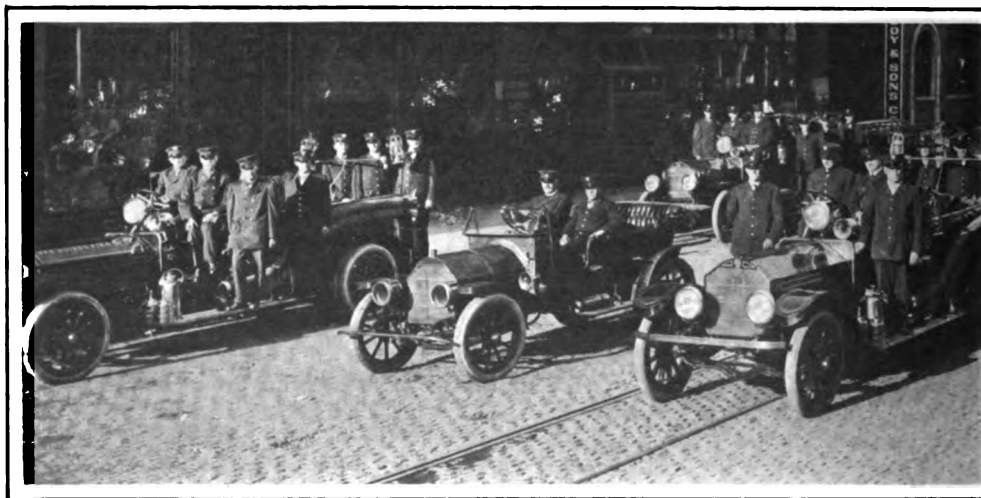
8. The amendment should specifically provide for the power of the legislature to regulate the affairs of cities by general city laws applying alike to all cities of the state.

9. Power should be expressly reserved to the legislature to pass laws local in application when they affect matters of state concern as distinguished from matters of a local nature.

10. There should be preserved to the legislature its supreme power to restrict the power of municipalities in regard to taxation, debt limit, borrowing money, extending credit and the like exactly as in the present Constitution, with the simple proviso that restriction should be required to be made by general law applicable alike to all cities.

11. The present power of the legislature to regulate and fix wages, hours of labor, etc., of wage-earning employes of a municipality or of a contractor should be retained, but should not be inserted in this part of the Constitution.

12. Counties lying wholly within a city should be treated as cities.



MOTOR APPARATUS OF THE DES MOINES FIRE DEPARTMENT

Des Moines' Fire-Fighting Equipment

By Will Burnet

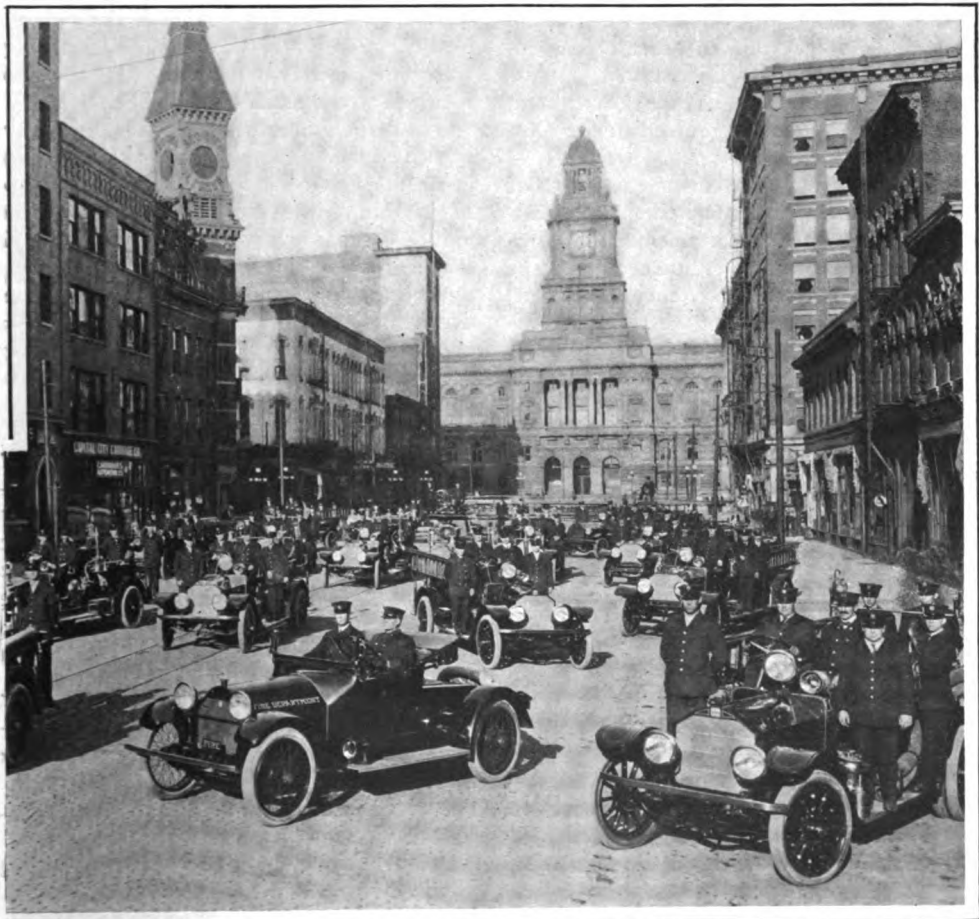
Chief, Fire Department, Des Moines, Iowa

AS a result of the use of eighteen pieces of motor apparatus, which have now been in service for a year and a half, the efficiency of the Des Moines Fire Department has been greatly increased. In 1912 the Department responded to 891 alarms, the total loss being \$356,967; in 1913 the alarms numbered 1,011, with a loss of \$288,927; while in 1914 the alarms increased to 1,133, but the loss was only \$194,053.

The motor apparatus comprises one 85-foot aerial tractor, four ladder trucks, three

pump and hose cars and eight combination chemical and hose cars. The foregoing are all six-cylinder equipment, of American-La France and Seagrave make, equipped with Firestone, Goodyear and Dayton airless tires. There are also two chief's cars of Chalmers type.

During the present year the Department has spent \$25,000 in remodeling the stations in which the motor apparatus has been placed. Des Moines has in all 15 stations, and the force comprises 127 men.



EIGHTEEN PIECES OF EQUIPMENT, COSTING OVER \$100,000

Fire Department Organization in Industrial Plants

A Paper Read at the Cincinnati Convention of the International Association
of Fire Engineers, August 31, 1915

By N. V. Holmes

Fire Marshal, Sears, Roebuck & Co., Chicago

THE organization of fire brigades to protect private plants has of late years been given more attention than ever before. Members of these brigades by frequent, prescribed drills given at unexpected times, followed by practical talks on duties, causes of fire, conditions to avoid in plant and their homes, have a decided bearing on the reduction of fire losses.

Inasmuch as members are to serve as "first aid" in handling a fire before the arrival of the city Department, they should work under orders of the first officer responding from the city Department.

A brief description of the department which the writer has organized in our Chicago plant is as follows:

Each floor has its own company of twenty-six members, consisting of a captain, two lieutenants, six pipemen, six fire-door men, three valve men, three fire escape and stairway guards, two chemical extinguisher men, one axeman with Pyrene extinguisher and two men with tarpaulins.

There are twenty-four companies in the plant during the regular working hours. These companies are drilled bi-weekly at unexpected times. The drills, with some slight modifications, follow out the rules of the fire college of the New York Fire Department.

At night the fire protection is taken care of by a detail of night watchmen, who are divided into two companies of nine men each. One company is on duty in a squad room while the other is pulling boxes throughout the plant. These companies change watches at midnight.

Fire-Fighting Equipment

In order to make quick response to alarms, the fire department is provided with an automobile hose wagon of the regulation type, fully equipped with hose, tarpaulins, basement pipe, deluge set and smoke helmets. This automobile is stationed in a

hose house directly in the rear of the Fire Marshal's residence, which is located opposite the center of the plant.

The plant is equipped with a Gamewell Fire Alarm System, alarms being received in the Fire Marshal's office, from where they are automatically transmitted to the watchmen's dormitory, hose house and Fire Marshal's residence.

The sprinkler system for the plant is entirely supervised by the American District Telegraph supervisory service, the register in the Fire Marshal's office recording waterflow signals at the same time they are received at the supervisory office.

The main source of water supply is from a 36-inch low pressure city main, our plant being the first consumer, as the city pumping station, with a capacity of one hundred million gallons every twenty-four hours, is our nearest neighbor.

We have three 1,000-gallon Knowles underwriters' pumps, equipped with Fisher automatic governors, with a constant water pressure of 125 pounds. Three steel gravity tanks, with a combined capacity of 180,000 gallons, located in a fireproof tower 30 feet above the highest row of sprinklers, cut in automatically in case the pump pressure (through an accident) drops below 75 pounds gravity pressure. By pumping into any of the Siamese connections, any one of the 43,000 sprinkler heads, comprising the entire equipment, can be reached.

Duties and Training of Watchmen

The safeguarding of the Chicago plant and warehouse requires a force of sixty-five night watchmen, who report their rounds to a central station operated by the American District Telegraph Company. Rounds are completed in forty-five minutes, watchmen working in two shifts, changing at midnight. Men off their beats are held in reserve as an auxiliary to the regular fire companies.

Inspections are carried on constantly, our guides being the rules and requirements of the National Board of Fire Underwriters; rules of the Bureau of Fire Prevention and Public Safety, City of Chicago; and the very complete suggestions contained in Field Practice Inspection Manual of the National Fire Protection Association. Our department has also been greatly benefited by periodical visits, through nearly all our different plants, of the engineers of the Independent Inspection Bureau of Philadelphia.

This department believes that fire prevention is entirely a matter of education, and to this end talks are given employees from time to time, as well as to members of the fire companies, on this important subject.

To safeguard private institutions, the work of the watchmen is especially important. These men are virtually in charge of the plant for the majority of the twenty-four hours each day throughout the year, and great care should be exercised in their selection.

A watchman should be active, alert, of middle age, one who will take an interest in his duties, and should, of course, be paid for services rendered. He should have at least two nights off each month; in fact, the position should be made such that only the very best of men can qualify.

It is the practice of a great many concerns, in filling positions of this kind, to select a man who has had long service with the concern. Such a man may be handicapped by his advanced age, or maybe he is crippled as a result of an accident, and is therefore given this position of night watchman, which is considered by some a sinecure. His honesty is not to be questioned, but when the critical time comes he may be alone in the plant and unable to handle the situation as it should be handled, the result being a partial or total loss to the property in his charge.

Too many employers expect a man to perform watchman's duties for twelve or fourteen hours out of the twenty-four. No man, whether he is old or young, can satisfactorily "deliver the goods" for a long period of hours. Sometimes watchmen never receive instructions from their superintendent, nor from the Fire Marshal of the city in which they are located. The writer believes it would be a good thing if the watch-

men were under the supervision of the Chief of the Fire Department. Then the Chief or his assistants could occasionally visit the watchmen and instruct them in their duties. This would greatly lessen the fire losses in our respective communities.

Watchmen's Reports

Watchmen should make nightly reports showing conditions of the property under their control; whether rubbish has been removed from the building; oily waste taken to the boiler room and burned by day employees; windows properly closed and intact; packing material properly safeguarded, and all private fire apparatus in its place and ready for use. These reports should show pressure on sprinkler risers, pressure tanks, pressure on dry system, height of water in gravity tank and condition of fire pump. The report should be turned over to the superintendent, or whoever is in authority, and an effort made to rectify mistakes immediately.

The watchman should know how to handle controlling valves on sprinkler system, how to set dry valves, how to pump up gravity and pressure tanks and pressure on dry systems.

Watchman's signals should be sent into a central station rather than recorded on a portable or stationary clock. One reason for this is that from any part of the plant the watchman can call the Fire Department. Another is, his rounds are constantly supervised, and in the event of an accident to him or his falling asleep, a runner would be dispatched from the central station, so that the plant in question would have the supervision required.

If a portable clock is used, no one knows until the next morning whether or not the watchman made his rounds, and it generally happens that the first thing destroyed or burned is the watchman's clock. This, of course, raises a doubt in everyone's mind as to whether the watchman was performing his part or had fallen asleep, and the fire was the result of his carelessness.

Watchman service should be maintained at all times when the plant is not in operation, and the record of such service be shown on such mechanical device as will not permit of the evasion of duty. Records should be checked over, filed and dated each day.

The Possibilities of Future Development in the Service Rendered by a Hospital to a Community*

It is Better Charity to Keep a Man from the Need of a Hospital Bed than to Care for Him when in One

By A. R. Warner, M.D.

Superintendent, Lakeside Hospital, Cleveland, Ohio

BEYOND and above a hospital's service to the individual sick in its beds, to the medical profession, to the cause of medical education, and to the growth of human knowledge, stands that hospital's final, resultant, real service to society as the ultimate measure of excellence. There is yet occasionally a hospital performing only the first elementary function of a hospital—the furnishing of bed and board to individual sick; but there are now many at the other end of the scale giving service which is the product of hands skilled in many ways and the work of several professions—at least of the nursing, the medical, the ecclesiastic, and the sociologic. These hospitals can render the greatest service to society: it is therefore these that society will in the end elect to preserve and support.

Prevention of Disease and Public Health

The era of prophylactic medicine is no longer a hope: it is come, a reality in fact, though it will develop in degree. The health centers established, the more frequent routine periodic physical examinations, the work of the factory physician and social service department, and the frequent use of the visiting nurse by insurance companies, indicate that individuals and corporations are becoming convinced that it already pays in days of health and productive labor better than its cost.

The composition of the average hospital ward is a public disgrace and a reproach. Here are found typhoids because we drink our sewerage, visceral and brain syphilis because doctors, dispensaries or hospitals have been too careless about letting patients slip away half cured, a menace to others

and a prospective public burden; here is sometimes tuberculosis, but never chicken-pox, because the community calls chicken-pox contagious and isolates it, but not as yet tuberculosis; here are men sick because they worked in a danger of which they knew nothing; here is a long line of men useless from the primary and secondary effects of alcohol. Hospitals see the needlessness, the ridiculousness of it all even better than others; but although it often means hard work to raise the money to pay the cost, they generally endure it in a silence and with a degree of inaction that does not indicate patience or any other virtue.

If a factory begins to send to a hospital cases of lead poisoning or other industrial disease to fill the spare beds, there is a sacred duty, a trust, to be fulfilled—not to appeal to the trustees for more beds for these poor sufferers, but to tell the facts, all the facts, to the local authorities, to the state board and to the public. What the authorities cannot do to force a correction of the faulty working conditions, public opinion can, and it will be done. Then the extra beds will not be needed. It is not always a compliment to a hospital when some factories elect to patronize that hospital; and if a hospital's collective conscience and regard for duty can be kept dormant by the prompt payment of ward rates, it is thereby classified if not standardized. The public has long talked about cemeteries as the burying-ground for the results of medical incompetence, and the public is beginning to talk about the hospital record room as the burying-ground for the responsibility for human lives carelessly, needlessly, wrongfully damaged or lost. A policy of silence, inaction, disregard toward industrial carelessness and other causes of needless suffering and death makes the hospital an acces-

* From a paper read at the recent annual conference of the American Hospital Association, in San Francisco.

sory to the crime. The working conditions of some manufacturing plants are wrong entirely through ignorance and not through wilful carelessness. But this does not lessen—it increases rather—the hospital's responsibility to make the effort to relieve the detrimental working conditions; for the hospital's story told direct to the managers will in such cases promptly bring the desired results.

The Practical Use of Facts and Records

The preservation of public health in all its forms is a major work for every hospital. No contribution of facts pertaining to public health problems can in any way equal that collected by hospitals. This is due to the fact that the records are written, that both the primary and secondary diagnoses are collected together in the indexes, and that large series are rapidly collected. The poor, the people reached best by hospitals, are affected first and most by community conditions unfavorable to health. The outpatient department, by its numbers, is extremely sensitive to changing conditions. The diagnoses made in a day or a week are a fairly accurate picture of the state of public health in the locality—a fact just beginning to be put to any use. The hospitals are the keepers of the public health more than we sometimes realize. In these days cities have epidemics of smallpox only when some dispensary misses that first case from the crowded foreign settlement.

Dispensaries will not always be departments or adjuncts of hospitals—"poor relations," as they have been called. The public interest will follow the profession to the newer fields. Although the man with tuberculosis, brass poisoning, or typhoid will continue to get most careful attention, keener interest and higher regard will be placed in the work of preventing others from getting the same troubles. The primary philanthropic institution will then be the one in the closest contact with the people, the dispensary, and the one which writes daily in its records the danger signals and the forecasts of the health of the community, now so little considered. Financial support always follows interest. Around the dispensary will be grouped the acute wards, the convalescent hospital, the hospital farm, the departments to train the maimed and handicapped back to usefulness, and other departments. Such an institution will be equipped

to mend the accident or misfortune in the best way possible at the same time that it is promptly preventing more from the same source.

Sometimes even routine work and records can be used quite effectively. When the Social Betterment Committee of the Federated Churches of Cleveland decided to attempt to secure the closing of the segregated vice district, the ministers counted the men and boys who visited this district, and asked what the harvest must be. The two hospital superintendents who were members of the committee counted the cases of disease coming to our clinics. We questioned every man as to the source of his infection and were soon able to demonstrate that 40 per cent of the fresh infections with venereal disease was acquired in this small isolated vice district, although only 10 per cent of the prostitutes, street walkers and other habitually immoral women known to the police were inmates of this district. We brought the Mayor and Chief of Police of the city to our clinics to show them the constant stream of needless human suffering that came from this district to overwhelm the offenders and the innocent of this and succeeding generations—not to point out the wealth of our clinical material. We opened our hospital records to them that they might realize the aftermath. The result of it all was the addition to the plans of our City Hospital of a pavilion of 150 beds for the isolation of the venereal disease, together with an increase in the beds now available; and recently—too recently to count our gain—the complete permanent closing of the district by a forceful, sincere Mayor and an efficient Chief of Police, equally determined to rid Cleveland of all traces of commercialized vice. The crowding in our dermatological clinic will, I believe, soon become a little less troublesome.

The fields for service to public health and preventive medicine open to hospitals are as yet mostly possibilities for future development, but the proper use of hospital records and opportunities already promise to prevent more disease than their beds could possibly relieve with treatment. Incidentally the record room work gets results cheaper than the ward. Is the "summum bonum" the medical profession or is it public health?

Broader Responsibilities to Patients

Usefulness is the measure of life and of

life's happiness. Usefulness may be lessened or abolished by disease, and thereby bring not only dire misfortune to the individual, but a problem to society. Such a problem begins when full usefulness ends; it is solved only when usefulness is again restored.

To hospitals society assigns the solving of these problems when the individual's resources are inadequate. The limits of the hospital field are therefore from the ending of usefulness to the restoration of usefulness. The interval between the discharge from the hospital after an acute illness and the day the man can return to work is, usually, at least a dangerous risk, if not a serious damage to a working man. Supervision of convalescence saves too many chronic conditions, too many over-strains, and too many lives not to eventually become general. Hospitals must make the use of convalescent departments a routine: the longer stay in the wards at high cost can never stand against the far cheaper and better farm life, the open air, the sunshine, and the graded schedule of work in the garden to bring a man back to working condition. This and much more will come when the hospital's work no longer ends when the patient is "able to go home," but when he is "fit to go to work."

Research and Educational

In the last few decades many medical schools have established chairs of Experimental Medicine and have provided ample laboratory facilities for borderline work with good and sufficient results. Notwithstanding the work of these university research posts, there has come to hospitals a feeling of direct responsibility to increase the store and use of medical knowledge by actively encouraging the study of problems presented by their patients instead of passively permitting this to be done. Animal experiments done in hospitals and laboratory work to prove and to check the theories, explanations and observations of the staff are becoming more common. It is in the hospitals that the practical clinical problems actually present themselves, and there is a growing belief that it is in the hospital that most of these will not only be solved for the day by a shrewd guess, or keen logic, but be so proven by animal experiments and other means that the work will be of value to others, and a benefit to posterity.

There is another benefit from the cost of

experimental work often, if not always, worth more than the knowledge gained. Hospitals are becoming progressively more and more interested in the training of young medical men for their own future use and for others. Without experimental work they are trained to depend on the say of others; with it they are trained to think and to prove. It pays to train men right. Lakeside Hospital has recently backed this belief by adding five men to the resident staff and by equipping a new laboratory, that thoughtful observation, study and demonstration, or "research work," as it is often called, may be increased among them to the extent of five men's full time. By no means does this make us the leader in this particular; rather, followers in a line that is content to look to the future for even moderate results. The clinical clerk is another evidence that hospitals are taking an active interest in medical education.

Cooperation and Mutual Helpfulness

The idea of mutual coöperation between hospitals as it is developing is hopeful and prophetic. The very idea of active competition between hospitals, of a bitterness of feeling, and of any rivalry that is not simply altruistic eagerness to serve better and absolutely free from thought of gain to self, is unreservedly repulsive; it is entirely foreign to the purpose of all endowments, grants, or expressed tenets of purpose of any hospital. The public servant, institutional or individual, who reveals for an instant a selfish aim is instantly discredited. Honor and gratefulness are but the acknowledgment of debt for uncompensated service.

The union of hospitals to increase the ultimate service to the community is broadening in scope. New York hospitals united to lessen waste in buying. Philadelphia hospitals united in an effort to increase the individual efficiency of the institutions. The New York dispensaries and the Cleveland hospitals have each united for the primary purpose of increasing the combined contribution of all the local institutions to the public welfare of the community, helping each to fit its work to the others and to the existing needs, eliminating overlapping and wasted energy. Surely we may look forward to the day when all hospitals shall present to society harmonious united service, adapted with the greatest care and in

absolute unselfishness to the needs of the time.

What are days and weeks spent in a hospital worth to patients, and what do the "cured" and the "improved" in the discharge notes of medical and surgical histories mean? Dr. Codman, of Boston, has been asking these questions for some years. A few hospitals are now really trying to find out by thorough follow-up systems how beneficial the average "cure" proves to be,

and to appreciate the later influence and the final effect of particular treatments. We are entering on the stage of the collection of the actual results as fundamental facts. From these there will come comparisons, deductions, lessons learned, and based upon these, future progress in many ways. Known results can be compared with the cost, one method with another, and society will be able to buy its health more intelligently.

Training for Community Center Work

FEW modern social developments have proceeded more rapidly than that of the playground movement or have had as important reaction upon popular social thought in its efforts to enlarge the leisure opportunities of the people. The playground movement has successfully demonstrated that recreation is an all-the-year-around necessity. From that movement has also come the important realization that recreation is needed by adolescents and adults as well as by children.

But with the admittance of the adult to the playground, he has brought his own desires for social and cultural development and his racial and group needs. So the school house was added to the playground, the community center was born and the playground director became the community center leader.

With the announcement of the opening session this autumn of the New York Training School for Community Center Workers, this almost dramatic development of the community center movement in the last few years is brought to mind with peculiar vigor.

The community center—which is the recently adopted name of the wider developed social or recreation center—is a self-governing, progressively self-supporting organization formed by the people of a neighborhood to secure opportunities for recreation and development. The public school house, which in the past stood in frigid idleness after school hours, is now utilized as the headquarters for the association's activities. The once closed rooms are used for evening meetings for numerous social, literary and athletic clubs of the neighborhood, which before found a precarious and

dangerous existence in quarters over saloons, old stables or expensive commercial meeting rooms. Dancing is encouraged under the supervision of a competent floor committee in an effort to keep the boys and girls from the demoralizing influences of the public dance hall. In the auditorium of the school, concerts, lectures, forums and community meetings are held to provide entertainment and opportunity for development of the older folk. And this is not all. Many of these community center associations through their volunteer committees are seeking to help their neighborhood in every way, from clean-up campaigns to free employment bureaus for their out-of-work neighbors.

While most of the work of a community center is done by the various committees of the local association, there is always need for a resourceful leader who—with cultural and technical training, and, most of all, with the vision of the possibilities within these heterogeneous individuals and groups—can avoid the dangerous pitfalls which have wrecked so many endeavors of community coöperation in the past.

To bring together the lessons of practical experience, to pass them on in an organized form, and to discover men and women possessed with social insight and ability to lead—these are the important fields of work which the New York Training School for Community Workers, under the direction of John Collier, is preparing to occupy.

As the Training School is the outgrowth of a group of community center workers gathering together for the interchange of experience during last winter, its course of study reflects a very direct approach to the problem. Practice work done by the stu-

dents, closely controlled by the Supervisor of Training, will be the basis of all the work of the school. This part of the course will consist of work in the already developed community centers and in two projected centers which will be operated by the staff and students of the school.

A seminar of lectures and conferences, led by men and women with authoritative viewpoints, will supplement the practice work. On looking over the list of topics, on each of which an average of five conferences will be held, one is impressed by the wide field of interest which the community center touches. One realizes, too, that this phase of betterment work is full of social imagination—is interwoven with the very stuff of constructive democracy and richer life.

The following is the list of the seminar topics, which is promised to be later enriched by others:

"The Conception of Social Forces." Constructive social enterprise; the reasonable aim of the social worker.

"Public Education." Its history, especially with reference to the broadening of educational content and contact; the school conceived as an agency in social development.

"The Problem of Leisure." The theory of play; leisure as affected by power machinery and urbanization; leisure viewed as the container of vital interests.

"Group Organization." Its principle, its varied forms, its relation to social movement and change in general; the need of community tradition; folk-ways and folk-art.

"The Playground Movement." The correlation of playgrounds with community centers.

"The Local Approach." Group interests, neighborhood interests and community interests, treated as an approach to the general political problem.

"City Planning." The problem of community living in its physical aspects.

"Immigration as a Community Problem."

"The Psychic Mechanisms." The translation of environmental influence into personal character.

"The Socialization of Fine Art." Pageantry, the civic theatre, uses of the motion picture, the community center in relation to arts and crafts.

"Commercialized Recreation." Lessons from Competitors of the Community Center.

a. The Saloon and Related Recreations.

b. The Theatre and the Motion Picture Show; Results of Commercialization; Sumptuary Regulation of Fine Art.

"Social Insurance."

"What It Means To Be An Economic Institution." The business principle.

"Delinquency." The delinquent individual and the delinquent group. The relation of the community center movement to this problem.

"Consumers' Coöperation." Extra-Political Democracy.

The necessary opportunity for the student to develop his own thought, upon both the practice work and the seminar, will be provided by a series of group and class conferences wherein will be given oral and written reports, required reading and original themes, led by the staff and consultants of the school.

The work of the school will begin on the 18th of October and continue until the 13th of next May. Inquiries should be addressed to the school at 70 Fifth Avenue, New York City.

A Plan for Fire Drills in Schools*

IT has been authoritatively stated that "one school house in the United States burns for every day in the school year." This probably underestimates rather than overestimates the number of fires which annually destroy school property. At any rate, too many precautions cannot be taken to protect children against this ever-present danger or to guard against the accidents which so frequently occur when alarms of fire are sounded in schools.

Coolness and courage on the part of principals and teachers are, of course, the first essential on occasions of this sort, and fire drills can accomplish wonders in meeting situations of this kind; but the wisest course, after all, is so to construct school buildings that children may readily escape

from them without bodily injury upon the first discovery of the flames.

Economy may sometimes cry aloud against the suggestion to spend a few extra dollars to anticipate the remote possibility of fires in school houses, but assuredly it is a false economy that raises such protests. And besides, the possibility of fires is never remote. To assume that any particular school, no matter where it is to be built, will escape this dreadful danger, is to take desperate chances. There is only one argument to be made for running risks as to burning children alive, and that is that it saves a little money. Even that is not sound; diminished fire risks mean diminished expense in the long run. But grant that it is cheaper to risk burning the children; most taxpayers have children or grandchildren in school, and once the question is brought home to them, it is a safe

* From a bulletin on First Aid to the Injured and The Prevention of Accidents, issued August, 1915, jointly by the Department of Public Instruction and the State Board of Health of Virginia.

guess that they will spurn that kind of economy and that legislators may vote for safety with the positive assurance that they will lose no political friends by taking such a step.

Until the public mind is thoroughly quickened to a proper realization of the importance of safeguarding school children against the danger of fires, we shall have to await developments in the matter of proper building laws with such patience and uneasy resignation as may be commanded. In the uncertain interim, however, it will be the part of wisdom for principals and teachers alike to be constantly—yet not nervously—on the watch for fires and to school themselves to meet such emergencies. Below we offer some fire drill suggestions that are well worthy of careful study:

Preliminary; Adequate Stairways.—There should always be at least two stairways in all two-story school buildings. These should be wide enough for a column two abreast to walk easily up and down. A sufficient number of good roomy stairways are far preferable to the usual type of outside fire escape.

Fire Escapes.—All fire escapes on buildings in which children congregate should have roomy balconies and be tested and proved by competent authority at least twice yearly.

Doors.—All doors should open outward and ought never to be locked while children are in the building during the day. (In dormitories night watchmen should be in place at night.)

Fire Extinguishers.—Fire extinguishers of an approved type should be part of the equipment of every large school.

Fire Drill Supervision.—This should be simple and direct, therefore adapt the teaching staff to the requirements.

The Principal of the school should be supreme with an understudy trained to take charge in an emergency. He should accurately gauge the time necessary to discharge the school, and enforce measures of discipline rigidly upon every pupil or teacher who fails to observe all requirements. The principal should also require from the janitor a daily report as to the condition of fire exits and apparatus.

Assistants.—One teacher on each floor should have general direction of the fire drill on that floor. This teacher should be chosen by the principal with due regard to temperamental fitness. Excitable or highly strung teachers should not be assigned to this task, whatever their other qualifications may be.

Duties of Assistants.—Upon these assistants falls the duty of changing the exits when prearrangement in drill practice or actual fire conditions render such a course necessary. Assistants are authorized to sound the alarm, and where electric alarms are used should be thoroughly instructed in their use.

The Teacher.—Each class is, of course, under the immediate direction of its teacher, whose paramount duty will be to preserve absolute discipline in drill. A single piece of disobedience at a critical time might be attended by awful consequences to the whole school.

The Janitor should daily inspect all stairways and exits to prevent their obstruction from any cause whatsoever: fire escapes must always be kept free from accumulations of ice or snow. In large schools the janitor should do fire patrol duty hourly and register on an approved watchman's clock. He should daily test the alarm signals where the electric system is used.

Drill Exercise.—Fire drills should be held at least twice monthly without notice either to teachers or pupils. Everyone in the building, whether visitor or not, should be included in it. Order and military exactness should mark the whole proceeding and every movement commanded by a bell signal.

The First Signal should be a series of deliberate strokes on a gong, which it is understood should never be used for any other purpose. The number or character of the strokes may be used to indicate the general location in the building of the fire or supposed fire. This signal should be repeated once. At the first stroke of the gong, pupils should stop work and be at attention. Each movement thereafter must follow the taps of the teacher's bell.

First Tap of teacher's bell, pupils rise and stand in aisles by desk.

Second Tap, they move forward two abreast to exit, at absolute command of teacher, who will halt the line at the doorway and then move the line forward steadily in order of precedence (previously determined). Lines from the various rooms should follow in close sequence, but never crowd into each other. The teacher should stand at the door of the class-room until half or two-thirds of the pupils are out, then move forward with the line.

Precedence.—To avoid confusion, the precedence of classes should be determined in advance so as to prevent crossing or jumbling of lines in march to exits. Precedence should be given the primary grades in assignment of exits and precedence in line of march.

Position of Teachers.—One or more teachers on the lowest floor should remain stationed between foot of stairway and exit until all have passed out. The other teachers from the upper floors should take positions at intervals on the stairways and along the line of march, the last teacher, principal and assistants bringing up the rear. No pupil should be permitted to leave the line of march for any purpose whatsoever. Teachers should see that the files are spaced so as to prevent touching.

If fire escapes are used, the teachers should be stationed one to each balcony. Two teachers from the lower floor should lead the line from the building. Where instrumental music is available, it would be well to use it in drill.



Hand Picked !

Every ounce of cement rock used in making Pennsylvania Portland Cement, is picked by hand.

This is more than a mere talking-point. It is an important reason for the remarkable high quality and uniformity of our Cement.

We shall continue to employ the hand method until someone devises a mechanical process with discriminating powers in the selection of materials.

Pennsylvania Portland Cement is made in one plant under one supervision in the heart of the Lehigh Valley district—the source of the cream of cement rock.

For years it has been given preference on engineering jobs where quality has been a paramount necessity.

"One Source—One Mill—One Standard"

PENNSYLVANIA CEMENT CO.

30 East 42nd Street, New York

Manufacturers of

PENNSYLVANIA PORTLAND CEMENT

Assignment of Exits.—In assigning exits where the capacity of fire escapes is limited, the lower floors should use inside stairways in order that the classes above with their longer journey may have uninterrupted use of the fire escapes. All stairways five feet or more in width should accommodate double lines of two each; all stairways so used should have a center hand-rail. Any change from regular assignment will be indicated by assistant in charge of floor.

Modifications.—Many buildings used for school purposes in Virginia are remodeled structures, poorly adapted in many instances for cut-and-dried drill regulations. Such buildings require that unusual care be taken in devising adequate drill maneuvers or in modifying the above plan, for it is in such school houses that the greatest danger in case of fire exists.

School Trustees are especially urged to inquire carefully and provide fully as to fire protection matters.

First aid to the injured and the prevention of accidents will hereafter be a regular part of the curriculum of the schools of

Virginia, as a result of a law passed at the 1914 session of the General Assembly. In accordance with the provisions of this act the educational and health authorities of the state jointly have prepared a first aid manual, which was revised and carefully criticised by a number of eminent surgeons. One hundred thousand copies of this manual have been printed and are now ready for distribution in the schools.

The manual contains a digest of the fundamental principles of first aid and takes a wide range, covering all subjects from bruises and colics to resuscitation, snake-bite and the various forms of chemical poisoning. The different sections are numerically arranged and are fully indexed for rapid reference. One entire chapter is devoted to fire drills in the schools, another to the prevention of accidents on the railroads, and still another to the handling of horses and teams.

South Pasadena's First Installation of Ornamental Street Lighting

By C. Wellington Koiner

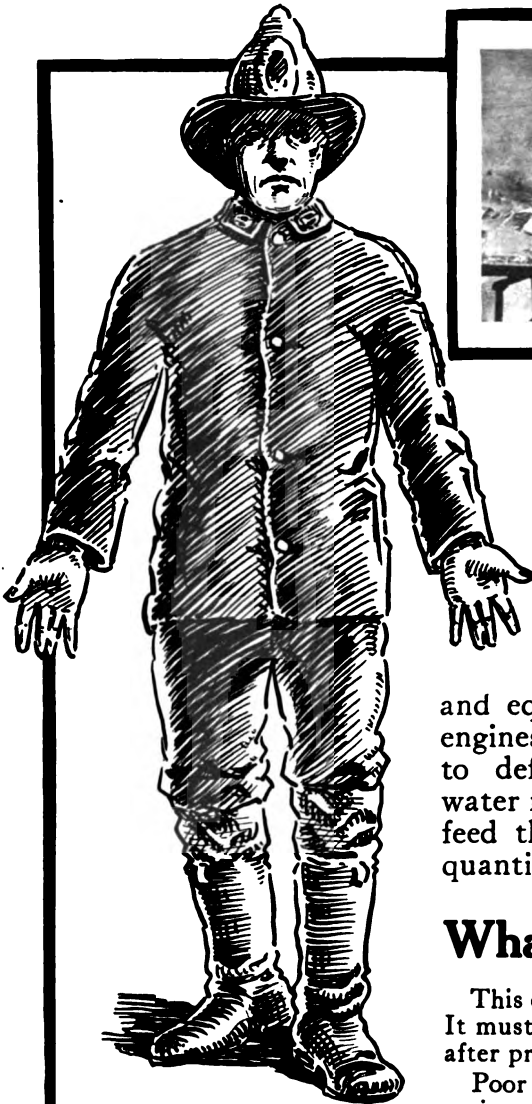
Superintendent, Pasadena Municipal Light Plant

FOR some months South Pasadena considered the question of providing a system of street illumination, and it was finally decided to light two of the main thoroughfares with 400 candle-power, 6.6 ampere, Type C Mazda lamps used in connection with the Novalux unit with a Polycase Alabaster globe. These units were mounted on copper-clad lighting posts made by the Union Metal Manufacturing Company, of Canton, Ohio, having a height of approximately 13 feet 6 inches to center of globe, and spaced approximately 110 feet apart on each side of the street. The lamps are fed by means of the conduit system, which is run in the parkway about 12 inches beneath the surface. This system is of 1½-inch Sherardized conduit, made by the National Metal Molding Company, of Pittsburgh, in which is pulled twin cable insulated with varnished cambric, lead covered, and having 5,000 volt insulation. The cable was supplied by the Standard Underground Cable Company, of Pittsburgh. The cost of this installation was \$1.10 per property front foot.

As other streets are improved, this main

system will be tapped and S. L. transformers will be connected into the system. In the parkways on other streets, one-inch Sherardized conduit will be extended, in which will be pulled 600-volt twin rubber-covered wire for supplying 80 candle-power, 6.6 ampere, Type C Mazda lamps at low voltage. These units will carry either 8 x 16 or 8 x 18-inch round globes. The height of the post will be 11 feet 6 inches. The cost should range from 70 to 80 cents per property front foot.

South Pasadena has been paying a street lighting rate of 7 cents per kilowatt. This rate has been considered very high. By the installation of a street lighting system which will be owned by the city when it is completed, the authorities will be in a position to secure competition for the supplying of current for street lighting. In this way the city will be enabled to have a great deal more light than heretofore and at a rate, for the ornamental lighting system, of half what is paid at the present time. It is planned to extend the ornamental lighting system throughout the city as fast as the people will authorize it.



Put Yourself In My Position

Suppose you, Mr. Water Works Superintendent, were a fire chief fighting a blaze? Yet—even with men trained and equipped to fight, with pumping engines working to their limit, you fail to defeat it. The pressure in the water mains is too poor to adequately feed the engines so that a sufficient quantity of water can be pumped.

What Would You Do?

This question asked then, would be too late. It must be answered before the disaster, not after property and lives are lost.

Poor water pressure is caused by clogged mains. But, this danger can be removed by

The National Method

of cleaning out water mains. It makes old mains as efficient as new. It gets rid of all the dirt which retards the water. It is far cheaper than relaying new pipe and eliminates all possible danger of poor water pressure from this source.

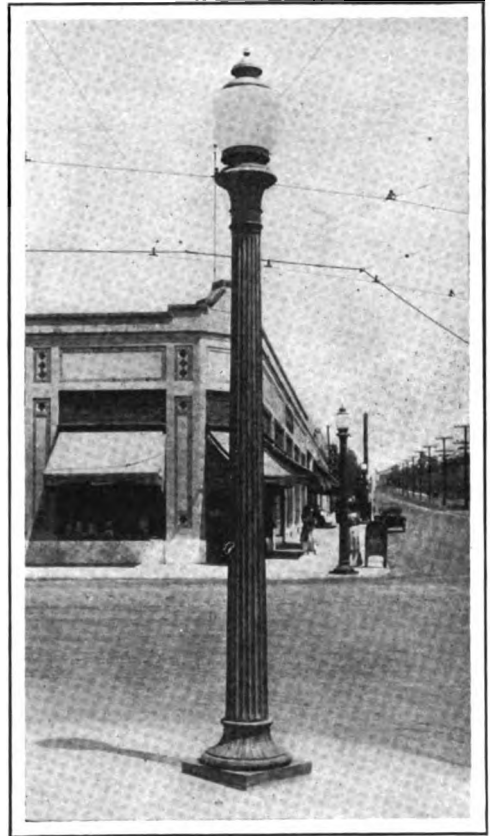
Ask us what should be done in your case

NATIONAL WATER MAIN CLEANING CO.
Hudson Terminal Building **NEW YORK CITY**

Another advantage of the ornamental system is that the poles that have heretofore been required for street lighting can be moved to the back yards, thus eliminating poles on thoroughfares to a large extent.

While this system is spoken of as ornamental, it is also useful, being highly economical in the distribution of light along the shaded thoroughfares. This is especially so with the one-light units. It was decided, after considering all lighting units in use at the present time, to standardize on the one-light unit, using 80 candle-power lamps for residence streets and 400 candle-power lamps for the business streets. This decision was based on the principle that it is better to put in one neat lighting unit and take care of it than to put in posts carrying from two to five lamps, which cost more to maintain and which usually carry small light units which detract from their appearance when illuminated. It was also conceded that the multiple units were not as attractive in the daytime as a neat one-light ornamental unit.

The Fair Oaks Avenue lighting improvement has been highly satisfactory to all the people in South Pasadena, and also to all others that have seen it, and it is said to be one of the prettiest installations in Southern California.



TYPE OF LIGHTING STANDARD USED IN
SOUTH PASADENA



A SOUTH PASADENA STREET IN THE EARLY EVENING

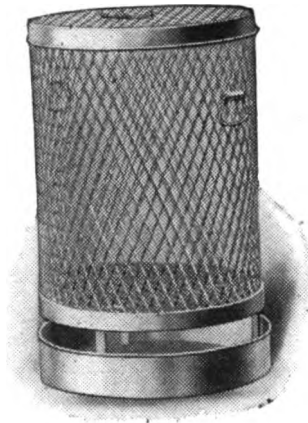
This photograph was taken by exposing the plate in the dusk for a time; then closing the shutter until the lights were turned on, the camera remaining in the same position.

SANITATION

We show illustrations of our Canco Trash Burner and Canco Fly Trap, two articles to help in the "clean up" campaigns which are spreading over the country.

"CANCO" RUBBISH AND TRASH BURNER

This is practically the only burner on the market that will withstand heat without warping, the body being made from **ONE PIECE OPEN HEARTH SHEET STEEL**.



Owing to its peculiar construction it is practically indestructible. All joints of the burner are welded; no rivets to become loose.

Canco Burner is the only burner which has a solid bottom, detachable base or pan. With ordinary burners the ashes are generally scattered around wherever the rubbish is burnt, making an unsightly appearance.

"CANCO" FLY TRAPS

There are some that look like Canco but they are about as similar as a "flivver" car is to a high speed racing car. First of all, the Canco is an **all metal** trap. No wood pieces to warp or rip off. It **must** wear and it'll catch more flies than Mr. Carter has pills. Joints are all electrically welded. It is made on strictly mechanical lines and after a careful study of other makes and their operation.



AMERICAN CAN COMPANY

New York, N. Y. Chicago, Ill. Toledo, Ohio San Francisco, Cal.

With offices in all principal cities

Items of Municipal Law

Compiled by A. L. H. Street

Street Sprinkling Assessments

The legislature of a state may validly empower a city to levy special assessments against property benefited by the sprinkling of streets to defray the cost thereof, according to a decision handed down by the Supreme Court of New Mexico in the case of *City of Roswell vs. Bateman*, 146 Pacific Reporter 950. This holding is sustained by similar decisions, which have been announced by the appellate courts of Minnesota and Indiana, and is based upon the theory that sprinkling constitutes an "improvement" of the street, especially where, as was the case in *Roswell*, it appears that a street is almost impassable in dry seasons unless sprinkled.

The courts of Missouri, Kentucky, Illinois, Michigan, Massachusetts, Utah and Montana have reached contrary conclusions, although they were based upon somewhat different statutory and constitutional provisions than are in force in the states which uphold the right to levy such assessments. The Missouri Court of Appeals has declared: "A special tax against abutting property is based on the idea that the work for which the tax is laid is an improvement of the property, and sprinkling to keep down the dust, while good for the comfort of the inhabitants, is too intangible to be denominated an improvement of the property."

✦ ✦

Regulation of Telegraph Companies

After a telegraph company has applied to a city council for permission to maintain its poles in streets, and has been granted that right on condition that an annual license fee be paid, the company cannot escape liability for payment of this amount on the theory that it is engaged in interstate commerce under permission granted by Congress, or that the laws of the state do not require consent of municipalities to the location of poles in streets. "Cities have a right to make reasonable classifications of grants and privileges, and have the right to attach dissimilar conditions and impose dissimilar burdens upon each class. It is only when different burdens are imposed

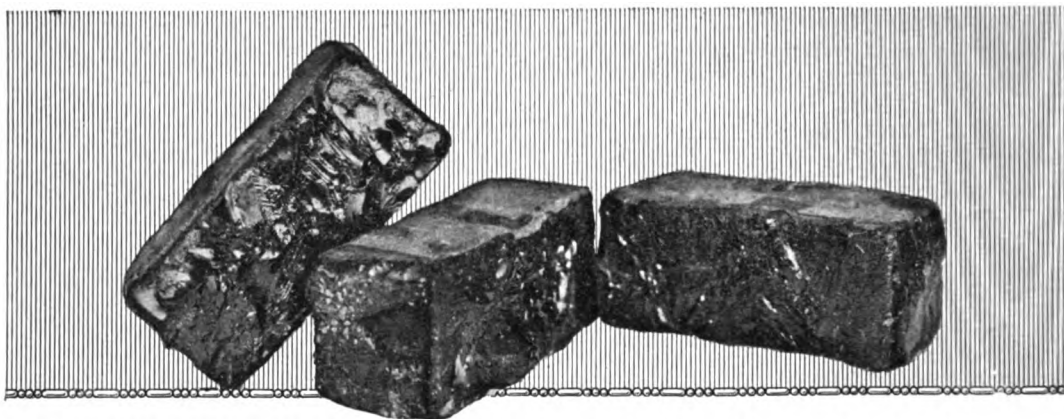
upon persons in the same class, holding under the same or similar grants, that there will be a violation of the equal protection feature of the Federal Constitution. When classification is allowable, the discrimination must exist in the class to which the particular grant or privilege applies and be an attempt to impose upon the complaining party in that class burdens that are not imposed upon others in that particular class," before an unlawful discrimination may be found to exist. (*Kentucky Court of Appeals, Postal Telegraph Cable Co. vs. City of Newport*, 169 Southwestern Reporter 700.)

✦ ✦

Use of Streets by Public Utilities

The Ohio Supreme Court will be called upon to determine the extent of rights of individuals and companies to use streets for the purpose of stringing electric wires or laying pipes, without obtaining a franchise from the city. The question has been raised in a suit brought by the Union Gas & Electric Light Company, of Cincinnati, against the Diamond Lighting Company. The first mentioned company seeks to enjoin the other, a private concern, from using certain streets for lines, on the ground that the Union Company has an exclusive franchise for use of the streets for lighting and heating purposes. The Court of Common Pleas in Cincinnati refused to grant the relief demanded, holding that, under the Ohio laws, there can be no exclusive right to such use of a street, and that, since titles to streets are vested in the abutting owners subject to their use for public purposes, abutting owners have an absolute right to exercise, or confer upon others, the privilege of connecting property by means of electric lines laid in the street, so long as the paramount use of the street for public purposes is not impaired.

This decision of the Court of Common Pleas seems to accord with previous decisions of the highest courts of Ohio and most of the other states to the effect that a public utility cannot be granted an exclusive franchise to use a street, but appears to be in the face of most of the appel-



Barrett's PAVING PITCH

When the block is worn out the Pitch still clings

WHENEVER an old, pitch-filled, block pavement is torn up, the pitch filler will be found clinging to the blocks when they are piled up on the sidewalk.

You can hardly knock it off; in fact, the only way to make the pitch let go is to subject it to such heat that it will melt and flow away.

No matter whether the pitch has been in the pavement five years or thirty years this condition will still be the same. Moreover, after twenty or thirty years the pitch is still chemically and physically good.

If new paving pitch were not so cheap the old pitch in a twenty year old pavement could be melted and scraped from the old block and used over again in a new pavement and put to work for twenty years more.

Good pitch, such as Barrett's Paving Pitch, is absolutely inert to the action of rain and frost and weather. The tendency of pitch to cling firmly to the block is responsible for the fact that Barrett's Paving Pitch maintains a perfect, waterproof seal throughout the pavement, protecting the foundation from water and frost.

No matter how the block may contract or expand in varying temperatures, the pitch adapts itself to the varying width of the joint and never lets go of the block.

Every joint is an expansion joint with Paving Pitch and no special expansion joints are needed, consequently a pitch-filled pavement cannot crack or swell up or explode. It will not thrust manholes or curbing out of position in hot weather. It is free from the stresses which characterize a cement-filled pavement at every turn of the street and every intersection.

Booklets free on request. Address our nearest office.

BARRETT MANUFACTURING COMPANY

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late court decisions so far as it recognizes the right to use a street for laying wires or pipes, without first obtaining permission from the municipal authorities.

✦ ✦

Cities as Legatees

It was within the powers of the cities of Baltimore and New Orleans to receive legacies under a will for the purpose of "educating the poor, without the cost of a cent to them, in the cities of New Orleans and Baltimore, and their respective suburbs." "Municipal corporations, at least in this country, are authorized to take and hold, unless specially restrained, property, real and personal, in trust for purposes in aid of the objects of the corporation, or for objects which will promote, aid, or assist in carrying out or perfecting those purposes." (Louisiana Supreme Court, *City of New Orleans vs. Salmen Brick & Lumber Co.*, 66 Southern Reporter 237.)

✦ ✦

Racial Discrimination in Ordinances

A city is powerless to adopt a valid ordinance prohibiting white persons and colored persons from residing in the same block, since that violates the constitutional right of persons to acquire and enjoy property without unjust discrimination. (Georgia Supreme Court, *Carey vs. City of Atlanta*, 84 Southeastern Reporter 456.)

✦ ✦

Municipal Power Over Buildings

A person who owns a building which is afterwards taken into the fire limits of a city has a vested property right, which can be interfered with by the city authorities only on the ground that the building constitutes a nuisance or is so maintained as to endanger the public health, morals or safety. It is within the police power of a city, however, to adapt an ordinance forbidding repair of a building after it has depreciated 50 per cent in physical condition, and requiring payment of a reasonable

fee for examination of the plans and specifications covering a proposed improvement and for issuance of a building permit. (North Dakota Supreme Court, *Russell vs. City of Fargo*, 148 Northwestern Reporter 610.)

✦ ✦

Regulation of Store Buildings

The ordinance of the city of Chicago which forbids retail sale of goods on more than one floor of a store basement, and on any floor more than twenty feet below the street grade, is a valid regulation in the interest of protecting shoppers who congregate in large numbers in such places. It is not invalid because sales are permitted upon many floors above the street, nor because limited in its operation to department stores. (Illinois Supreme Court, *City of Chicago vs. Mandel Bros.*, 106 Northeastern Reporter 181.)

✦ ✦

An Invalid Fire Ordinance

An ordinance of a municipality restricting the construction of buildings of combustible material within established fire limits must, in order to be valid, operate without unjust discrimination. Hence, an ordinance which permits the city authorities to grant special permission for the construction of wooden buildings within such limits is void. (Missouri Supreme Court, *Hays vs. City of Poplar Bluff*, 173 Southwestern Reporter 676.)

✦ ✦

Regulation of Sales of Ice

It is beyond the authority of a city to adopt an ordinance regulating the prices at which ice shall be retailed. The ordinance of the city of Fitchburg, which purports to require hawkers and peddlers of ice to obtain a license before pursuing their occupation, is invalid, as being unauthorized by the city's charter. (Massachusetts Supreme Judicial Court, *Greene vs. Cook*, 106 Northeastern Reporter 573.)

FACTORS IN THE SUCCESS OR FAILURE OF STREET PAVEMENTS

The second article in this series, announcement of which was made in the August number, will be published in THE AMERICAN CITY for October, 1915

MUNICIPAL SHOPPING VIA WIRELESS



When the city of **Honolulu, T. H.**, decided to register Motor Vehicles, this thriving community searched the world for the "best" possible product at the "best" price.

Naturally, attention was directed to Baltimore, the home of "**BALTO**" **Porcelain Enameled Iron Signs**. In this particular instance **TIME** was at a premium—**Honolulu** talked with us via **WIRELESS**—in "72 hours" this contract was closed and part of Honolulu's order for Automobile and Motorcycle License Tags was **ACTUALLY IN WORK**—that's service.

Service alone did not guarantee this contract—**quality, finish and dependability** were the virtues which first suggested themselves to the officials of this far away city, and these virtues alone have given our product the world-wide distribution it now enjoys. For **quality** and **service** in the development of the most modern and artistic **municipal signs**, we lead.

Sketches, quotations, suggestions and samples are yours for the asking. Write our Service Bureau—

Department C

THE BALTIMORE ENAMEL & NOVELTY CO

BALTIMORE, MD., U. S. A.

Conventions and Exhibitions

ON THE CALENDAR

SEPTEMBER 6-10.—ROCHESTER, N. Y.
American Public Health Association.
 Secretary, Selskar M. Gunn, 755 Boylston Street, Boston, Mass.

SEPTEMBER 6-11.—OAKLAND, CAL.
League of California Municipalities.
 Secretary, H. A. Mason, Pacific Building, San Francisco, Cal. Joint Meeting with the California Conference on City Planning.

SEPTEMBER 7-9.—NEW YORK CITY.
The New England Water-Works Association. Secretary, Willard Kent, Narragansett Pier, R. I.

SEPTEMBER 8-10.—CINCINNATI, OHIO.
International Association for the Prevention of Smoke. Annual convention. Secretary, S. H. Viall, 10,618 South Wood Street, Chicago, Ill.

SEPTEMBER 13-16.—ATLANTIC CITY, N. J.
Association of American Portland Cement Manufacturers. Secretary, Percy H. Wilson, Land Title Building, Philadelphia, Pa.

SEPTEMBER 13-17.—OAKLAND, CAL.
Pan-American Road Congress. Under joint auspices of American Road Builders' Association and the American Highway Association. Secretary American Road Builders' Association, E. L. Powers, 150 Nassau Street, New York City. Executive Secretary American Highway Association, I. S. Pennybacker, Colorado Building, Washington, D. C.

SEPTEMBER 20-23.—WASHINGTON, D. C.
Illuminating Engineering Society. Secretary, J. D. Israel, 29 West Thirty-ninth Street, New York City.

SEPTEMBER 23-OCTOBER 2.—NEW YORK CITY.
American Educational and Vocational Training Conference. Secretary, A. D. V. Storey, Hotel Biltmore, New York City.

SEPTEMBER 27-29.—ST. LOUIS, MO.
National Association of Commercial Organization Secretaries. Secretary, James A. McKibben, Secretary Chamber of Commerce, Boston, Mass.

SEPTEMBER 28-30.—SPOKANE, WASH.
League of Pacific Northwest Municipalities. Annual Conference. Secretary, Charles G. Haines, Ph.D., Whitman College, Walla Walla, Wash.

OCTOBER 6-8.—MINNEAPOLIS, MINN.
National Housing Association. Secretary, Lawrence Veiller, 105 East Twenty-second Street, New York City.

OCTOBER 11-12.—DAYTON, OHIO.
National Paving Brick Manufacturers' Association. Secretary, Will P. Blair, 824 Locomotive Engineers' Building, Cleveland, Ohio.

OCTOBER 11-15.—DAYTON, OHIO.
American Society of Municipal Improvements. Secretary, Charles Carroll Brown, 702 Wulsin Building, Indianapolis, Ind.

OCTOBER 11-16.—NEW YORK CITY.
Exhibition of Street Cleaning Apparatus and Appliances. To be held under the auspices of New York Department of Street Cleaning, J. T. Fetherston, Commissioner.

OCTOBER 12-13.—FREDERICKSBURG, VA.
League of Virginia Municipalities. Secretary, Luther C. Brinson, Portsmouth, Va.

OCTOBER 13-15.—HUTCHINSON, KAN.
League of Kansas Municipalities. Secretary, C. H. Talbot, University of Kansas, Lawrence, Kan.

OCTOBER 20-21.—VIRGINIA, MINN.
League of Minnesota Municipalities. Secretary, Prof. Richard R. Price, University of Minnesota, Minneapolis, Minn.

♦ ♦

Fourth National Housing Conference

Many workers for housing reform will welcome two innovations to be made by the National Housing Association next month in the Fourth National Conference on Housing in America.

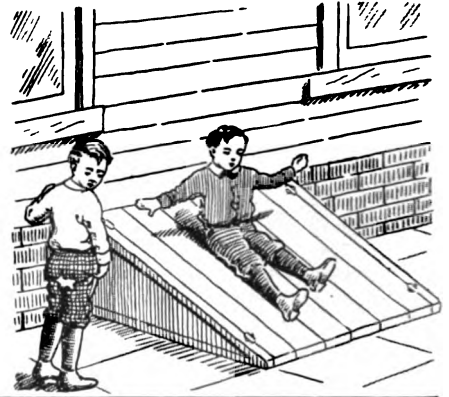
One of these new features is the devoting of an entire evening to the relationship of taxation to housing. Papers on this subject will be presented by C. B. Fillebrown, of Boston, and E. R. A. Seligman, of New York. The discussion will be opened by Edward T. Hartman, of Boston, and Allan Robinson, of New York.

The other innovation is the fact that a national housing conference will for the first time be held in a city where housing evils have not reached the chronic stage found in most of the larger and older cities of the United States. It is recognized, however, that Minneapolis is by no means ideal in housing conditions. Indeed, investigations made by the Minneapolis Civic and Commerce Association have shown that it has, in some degree, every type of housing evil known to older and larger cities. It is believed that delegates will find its housing problems thoroughly typical of the average American city.

The conference proper will last three days and will be followed by a Minneapolis Housing Institute, which will be practically



EVERWEAR
STANDS WEAR AND TEAR



The Modern Cellar-Door

**Make It Safe
For Them to Play**

There is more than appearance to playground apparatus—more than mere strength and “staying” ability—there must be smoothness, ease, quietness of operation to assure the utmost of pleasure and satisfaction from each appliance.

For small or limited ground spaces, there is nothing that can so satisfy and keep in motion large groups of children as a climbing and sliding combination. Children WILL climb somewhere, somehow, and the above combination accomplishes the double purpose of exercise and entertainment with safety.

A complete line of public playground apparatus fully described in Catalog C-3 which will be sent on request.

EVERWEAR MFG. CO., Springfield, Ohio

a fourth day's conference, and which it is expected the delegates will attend.

There will be two general sessions each day as well as section meetings, an inspection trip and round table luncheon discussions. The section meetings, each of which will occupy a whole morning, are especially designed for delegates who are actively engaged in special phases of housing, and will afford opportunity for full discussion of practical details of their problems. The first section appeals particularly to those engaged in building or managing small dwellings, members of limited dividend companies, building and loan employers and employes, as well as to social workers. The second appeals to those engaged in drafting or administering housing laws, ordinances or regulations, members of local

housing committees, state and city health officials, building inspectors, and, again, social workers who so often have to deal with the results of bad housing which good legislation well enforced would prevent.

The housing institute on October 9 will deal chiefly with the practicality of developing garden suburbs in America for wage earners and with standards for housing codes.

One of the features of the conference will be an exhibition planned by the Local Committee to show what has been done in various cities toward developing a model dwelling. Over one hundred companies are engaged in promoting improved dwellings and already a considerable number have promised to send exhibits, some including models.

The American City Bureau Summer School

Under the direction of the field staff of the American City Bureau, and with the co-operation of many leaders in commercial organization and civic work, a Summer School for Secretaries was successfully conducted during the three weeks ending August 7. Two weeks of the course were spent in class-room study at East Dorset, Vt., while the third week was divided between Boston and New York.

The distance which several of the students traveled to attend the school, and the close application which all gave to the instruction and lectures, were a striking indication of the growing desire of ambitious men to fit themselves for careers of real usefulness in chamber of commerce work. Of those who took the course, some are already filling secretarial positions, while others not now occupying such positions are looking forward to entering the commercial organization field as a life work. The regularly enrolled students were:

A. L. Olinger, of Emporia, Kan.; N. B. Shouse, of Muskogee, Okla.; Paul F. Collier, of Durant, Iowa; Alfred Jenkins and F. P. Mabee, of Detroit; Edwin B. Linabury, of Pontiac, Mich.; Frank C. Saxton, of Toledo; Luther M. Walton of Reading, Pa.; W. H. Hart, of Meriden, Conn.; T. C. Fitzgibbon, of Sharon, Pa.; Alexis J. Colman, of Elizabeth, N. J.; J. Buckner Debnam, of Dover, N. J., and Walter K. Sumner, of Glens Falls, N. Y.

There were also many others who attended some or all of the meetings in Boston and New York, but who were unable to spare the time to take the complete course.

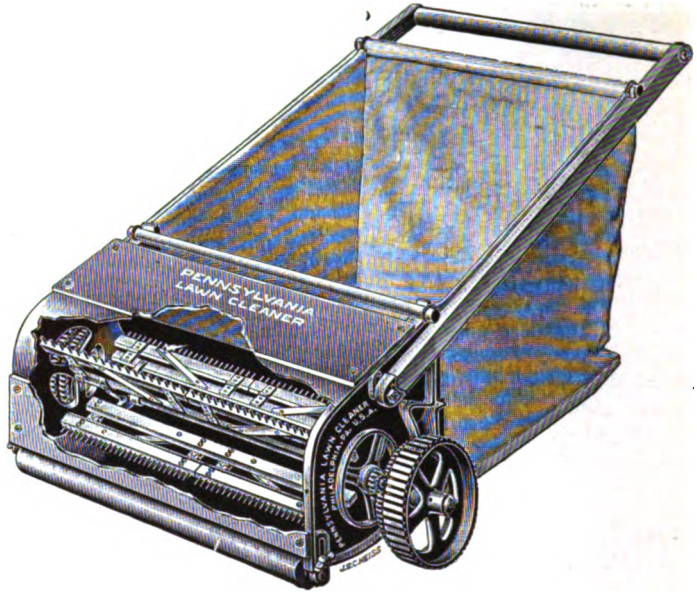
The lecturers whose coöperation added so greatly to the attractiveness and practical value of the Summer School, included:

Edward A. Filene, James A. McKibben, Harold O. Wellman, W. H. Chandler, L. B. Hayes, George S. Smith, of Boston; John Nolen, of Cambridge, Mass.; Charles A. Beard, Frederick A. Cleveland, S. C. Mead, J. C. Lincoln, John C. Young, W. H. Mahoney, George B. Ford, Shelby M. Harrison, Arthur H. Blanchard, Edward T. Devine, Henry Gaines Hawn, Richard S. Childs and H. S. Gilbertson, of New York; Richard B. Watrous and E. E. Pratt, of Washington, D. C.; Alfred L. Smith, of Hanover, N. H.; Sherrard Ewing, of Reading, Pa.; L. D. Upson, of Dayton, Ohio; Clinton Rogers Woodruff, of Philadelphia, and R. H. Gitchell, of Detroit.

The class-room instruction during the first two weeks devolved chiefly on Lucius E. Wilson, Director of Campaigns, and Daniel A. Reed and J. Harold Braddock, Vice-Presidents of the American City Bureau.

It is probable that a similar educational opportunity will be afforded next summer to men who feel the need for training in the practical administration of commercial and civic organizations.

**Pays
For
Itself
In
Labor
Saving**



One man can clean up the
Autumn leaves and trash quicker
and better with a

“PENNSYLVANIA” Lawn Cleaner and Rake

than three or four men with hand
rakes.

The three revolving rakes create a
suction that cleans the lawn on the
same principle as a vacuum cleaner
operates on carpet.

Every bit of trash is lifted and
passed into the roomy basket. This
is easily emptied.

The wire-tooth rakes leave the
grass standing upright, raising the
low crab grass so the mower can reach
it.

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Municipal and Civic Publications

Copies may be ordered of THE AMERICAN CITY, with the exception of Government publications and those indicated as free, which should be ordered direct from the offices publishing them

STEIN, MILTON F., Assoc. Mem. Am. Soc. C. E., Assistant Engineer, Cleveland Filtration Plant.

Water Purification Plants and Their Operation. Charts, diagrams and illustrations. 258 pp. First Edition. 1915. \$2.64

Citing the difficulties often experienced when taking over the work of operating a water purification plant, the preface states that the writer's object has been "to give instructions for the operation of water purification plants as simply and concisely as is consistent with reasonable clearness." Further: "It has been attempted to include . . . all information and data required in the operation of the plant, such as instructions for preparing standard solutions, making bacterial and chemical tests of the water, handling coagulants, washing filters, keeping records, etc." The nine chapters of the book treat of water and its impurities, types of purification plants, water tests, coagulation and sterilization, water softening, sedimentation and filtration and general operation. Four appendices include: analysis of coagulants, standard solutions, specifications for lime, soda, ash and aluminum sulphate and a weir table. Copious illustrations are included in the text in addition to many carefully prepared charts and diagrams.

GORGAS, WILLIAM CRAWFORD, Chief Sanitary Officer, Panama Canal, Surgeon-General, U. S. A., Major-General, U. S. A.

Sanitation in Panama. 298 pp. Illustrated. 1915. \$2.15

Previous to his appointment as Chief Sanitary Officer of the Canal Zone the author had been in charge of the health work at Havana, Cuba. It was while he held this position that the important discoveries regarding yellow fever were made. Doctors Reed, Lazear (who later died of yellow fever), Carroll and Agramonte formed a Board which conducted experiments that definitely proved certain facts, as follows: (1) Yellow fever is conveyed only by the female *stegomyia* mosquito; (2) the mosquito is infected by the blood it obtains from a person in whom the disease has been developing for at least 3 days; (3) 12 to 20 days elapse before the mosquito can communicate infection; (4) the patient does not show symptoms until 3 to 6 days after being bitten; (5) the yellow fever parasite is sub-microscopic but is killed by a temperature of 55° C. This information furnished the principles needed to combat successfully the disease of the tropics. Chapters X to XXII deal with the actual sanitation work, based on these principles, which was undertaken in Panama. How the work was organized, the methods of sanitary inspection, hospital work, etc., are all fully discussed. Frequent photographs illustrate concrete drains and ditches, screened water-barrels and the mosquito squad spraying marshes with oil from tanks strapped to their shoulders. In addition to this preventive work in the case of yellow fever and malaria, measures were taken to prevent the outbreak of bubonic plague and a special colony was created for the reception of lepers.

TAYLOR, WINIFRED LOUISE.

The Man Behind the Bars. 1914. 302 pp. \$1.63

"Doubtless the key to my own position is the fact that I always studied these prisoners as men, and I tried not to obscure my vision by looking at them through their crimes." These words in the preface give the keynote to the author's attitude in the pages which follow. Fifteen interesting chapters, interspersed with well-related anecdotes, tell of the author's various experiences in her study of prison conditions and in her actual association with convicts. In summing up in the last chapter it is stated: "The basic principle of reform in those who prey upon society is the changing of energies destructive into ener-

gies constructive." In other words, the actions of convicts are the result of prompting instincts which in themselves are not necessarily evil, and which, furthermore, if properly directed (or unhindered in their expression) may lead to lives of positive benefit to the community.

THE AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE.

The American Industrial Opportunity.

Vol. LIX, May, 1915; whole No. 148, of The Annals of the American Academy of Political and Social Science.) 357 pp.

Paper, \$1.00; cloth, \$1.50

This issue of the Annals contains the following papers: "The Resources of the United States and Their Relation to Opportunity," by R. Malcolm Keir; "Prolonging Life and Developing Personal Powers," by J. Pease Norton; "The Importance of Research as a Means of Increasing Agricultural Production," by M. B. Waite; "Agricultural Education and Agricultural Prosperity," by A. C. True; "The Efficiency Movement in Its Relation to Agriculture," by W. J. Spillman; "The Scientific Study of Marketing," by Selden O. Martin; "The Relation of Research to the Progress of Manufacturing Industries," by W. R. Whitney; "Motion Study as an Increase of National Wealth," by Frank B. Gilbreth; "Low Wages and the Low Wage Environment," by Frank P. Walsh; "The Adequacy of American Wages," by Scott Nearing; "Industrial Output and Social Efficiency," by Charles Ervin Reitzel; "The Theories Advanced in Explanation of Economic Crises," by E. M. Patterson; "Taxation of Land as a Remedy for Unemployment," by Bolton Hall; "Socialism as a Cure for Unemployment," by John Spargo; "Statutory Provisions for and Achievements of Public Employment Bureaus," by Henry G. Hodges; "Public Bureaus of Employment," by Charles B. Barnes; "Casual and Chronic Unemployment," by Morris Llewellyn Cooke; "Profit Sharing as an Influence in Industrial Relations," by A. E. Pfahler; "Some Thoughts on Industrial Unrest," by Daniel Guggenheim; "The New Government Regulation of Business," by James T. Young; "The Influence of the Federal Reserve Act Upon Commercial Borrowing," by Thomas Conway Jr.; "The Free Port an Agency for the Development of American Commerce," by Frederic C. Howe; "The Modern Terminal Port," by William Joshua Barney; "The Waterways and Commercial Evolution," by Ralph H. Hess; "The Reconstructed City," by J. Russell Smith; "The Attitude of Business Towards Foreign Trade," by Edward Ewing Pratt; "Branch Banks and Our Foreign Trade," by William S. Kies; "South American Markets," by Charles M. Pepper; "The United States' Opportunity to Increase its Foreign Trade with South America," by Lorenzo Daniels; "Coöperative Pioneering and Guaranteeing in the Foreign Trade," by Edward A. Filene.

ENGINEERING NEWS.

Redressed Granite Block Pavements.

(Issue of May 27, 1915.) 4 pp. Photographs. 15 cents

The practice of clipping used granite paving blocks, relaying, and covering them with asphalt is discussed and the size qualifications for the blocks in different localities is quoted. Employing old blocks as a foundation for asphalt is said not to have been found satisfactory because the large size of the blocks militates against a smooth surface under the present heavy traffic. This difficulty, in the cases discussed in the article, is met by clipping the blocks to a smaller size and laying them upon a carefully prepared bed. In conclusion, the article states that "officials of the cities which have tried redressed granite-block pavements have reported no fault to be found with them; they have obtained what proves to be substantially a first-class granite-block pavement at one-half to two-thirds the cost of a pavement of new blocks."

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GODINEZ, F. LAURENT, Consulting Lighting Specialist.

Display Window Lighting and the City Beautiful. (Facts and New Ideals for Progressive Merchants.) 223 pp. 1914. \$2.19

By means of a profusely illustrated text this book shows what can be accomplished by scientific lighting methods to make individual window displays more attractive and our city streets more beautiful. In his preface the author says: "The public lighting of the American city has suffered from an overdose of what may best be described as commercial utilitarianism." In the case of at least one city, it is shown, the initiative and activity of the local Chamber of Commerce overcame this objection, and a régime of evolution and progress was inaugurated. The book considers the city street as a unit in the lighting system and insists that as streets are the common property of the citizens they should receive primary consideration. Besides treating of gas and electric lighting effects, the book devotes a special chapter to "Color Attraction," and the various means of intensifying or modifying and of composing colors is explained. The last chapter, "Modern Display Lighting," describes a series of exhibits in window lighting which resulted from the co-operation of the Jersey City Chamber of Commerce and the Public Service Corporation of that city. In these displays all the resources of light, color and action were combined in such an unusual fashion that highly interesting and instructive results were obtained.

HALL, NEWTON MARSHALL, Minister of the North Congregational Church, Springfield, Mass., Member-at-Large of the Springfield Board of Education.

Civic Righteousness and Civic Pride. 1914. 198 pp. \$1.35

Pointing out that civic questions are at bottom moral questions, the author shows that the ideal democracy cannot be attained by model charters, the referendum, nor by similar devices alone. The chapters are made up of a series of sermons by the author, and treat of such subjects as immigration, civic responsibility, vice suppression, public schools, the saloon, and the civic work of women. Emphasis is placed throughout upon the larger scope of the modern city's activities—"every man's house his castle" is being replaced by a higher doctrine of self-sacrifice for community betterment. The writer's conception is well summed up in a paragraph in the chapter on Civic Righteousness and Civic Pride: "The development of civic pride means a development of the consciousness of unity, the sense of the mutual interdependence of every citizen, and a consequent development of the principles of democracy."

TAYLOR, GEORGE A., Editor of *Building and Real Estate Magazine*.

Town Planning for Australia. (Introduction by John Sulman, F.R.I.B.A., President, Town Planning Association of N. S. W.) 1914. Quarto. 136 pp. 109 illustrations. 75 cents

In popular style the author first writes of the great need for town planning in Australia, giving a summary of town planning in ancient times, the progress made in England, France and Germany, and "The Tragedy of Washington City." Australia's unusual opportunity for building a capital on virgin soil is then discussed, with a detailed description of the prize plan of Walter Burley Griffin, briefer mention (with illustrations) of the second and third prize plans, and a section devoted to the composite plan finally adopted. Gary, Ind., and Forest Hills, L. I., are described in subsequent chapters, and the remainder of the volume takes up special problems such as water, sewerage, lighting, transportation, heights of buildings, financial aspects of city planning, and organization and administration, concluding with general remarks on the ideal city and how to attain it.

MOTT, FRANK K., Mayor of Oakland, Cal.

A Review of Municipal Activities in the City of Oakland, California, 1905-1915. 1915. 46 pp. (Supply limited.) Free

SNEDDEN, DAVID, Commissioner of Education for Massachusetts,
WEEKS, RUTH MARY, and
CUBBERLEY, ELLWOOD P., Professor of Education in Leland Stanford Junior University.

Vocational Education: Its Theory, Administration and Practice. (Three Studies originally published in separate volumes of the Riverside Educational Monographs.) 1914. 401 pp. \$1.30

The three articles in this volume embrace a general program or plan for future vocational education organization, an intensive study of vocational educational methods as applied in public schools, and an exposition of the work that has been done in rural schools and the steps necessary to make the results more far-reaching. Mr. Snedden ("The Problems of Vocational Education") takes up the historical aspect, defines vocational education and shows the present need for it, discusses state support, types of vocational education, coöperation of agencies, relation of vocational to cultural education, and types of schools. Miss Weeks ("The People's School: A Study in Vocational Training") goes into the details of the organization and management of trade and industrial schools in Europe and America, and formulates a definite ideal type of trade school for guidance in future efforts. The final article by Mr. Cubberley ("The Improvement of Rural Schools") shows how rural schools have been neglected. There is need for fundamental changes in administration, and to effect this the states must be persuaded to expend more money. The author further discusses the organization and supervision of rural schools. The three articles together form an interesting and comprehensive exposition of the subject, and each of the authors appears to have a profound sense of the importance of vocational education in modern life.

MAWSON, THOMAS H. & SONS, Landscape Architects.

Exeter of the Future. (A Policy of Improvement Within a Period of 100 Years.) Quarto. 34 pp. Illustrated. 75 cents

Proposals for giving to Exeter a dignified monument expressive of its corporate civic existence and comparable in beauty and magnitude to the ancient Cathedral, form the theme of this report, which is in no sense intended to take the place of a general town planning scheme. The main feature discussed is the Municipal Center. Then follow plans for a new railway station with appropriate surroundings. In conclusion there are given miscellaneous suggestions, and a chapter on suitable connections between the Cathedral and the rest of the civic scheme. The report is distinguished by unusual charm and interest. It emphasizes the fact that no part of a city can exist for itself alone, but helps to make or mar the whole.

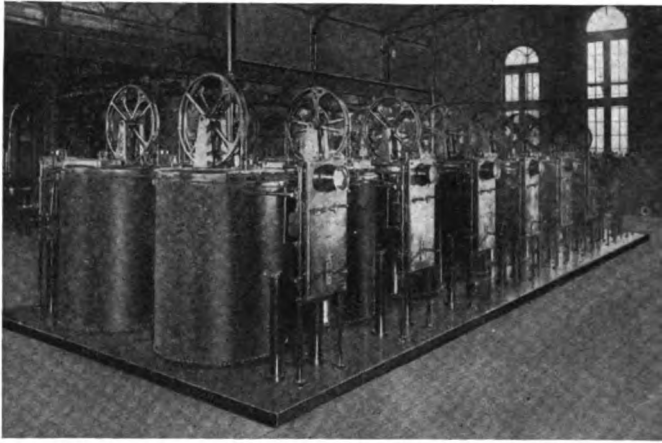
PRICE, L. L., M. A.

Co-operation and Co-partnership. Glasgow. 1914. 264 pp.

Half the volume is devoted to a discussion of the factors to which coöperation and copartnership owe their origin, the various theories of leaders who advocated them, and the respects in which, as worked out in Great Britain, they have failed to meet inordinate expectations. Part two takes up concrete instances of successful experiments, analyzing, in particular, the principles of the Rochdale plan, and giving an account of the English and Scottish coöperative wholesale societies. The methods of other coöperative societies are more briefly included, and the meaning of the terms "copartnership," "coöperation," "profit-sharing," and "industrial partnership" is discussed.

COMMITTEE ON TRAINING FOR PUBLIC SERVICE, COLUMBIA UNIVERSITY.

Report of the Committee on Training for Public Service. March 27, 1915. 16 pp. (Supply limited.) Free



Sixteen 75-Light Westinghouse-Cooper-Hewitt Rectifier Constant Current Transformers installed in the Pittsburgh Municipal plant.

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THE Pittsburgh Municipal Light Plant has had in service for the past five years a Westinghouse Metallic Flame Arc Lighting System, consisting of 1200 lamps and sixteen 75-light Westinghouse Cooper Hewitt Rectifier Constant Current Transformers.

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THE AMERICAN ACADEMY OF POLITICAL AND
SOCIAL SCIENCE.

Readjustments in Taxation. (*The Annals* for March, 1915.) 275 pp.

Paper, \$1.00; Cloth, \$1.50

An introductory chapter by Prof. Edwin R. A. Seligman of Columbia University outlines the modern tendencies of taxation systems in America and describes the need for more centralized control in matters of taxation, for separation of local and state revenues, and for a classified property tax. Sectional associations of tax commissions are especially recommended. The remaining discussions take up specific problems of national, state and local taxation. Among those of particular interest from a local point of view may be mentioned the following: "Taxation of Public Utilities," by Delos F. Wilcox; "The Disproportion of Taxation in Pittsburgh," by Shelby M. Harrison; "Reduction of Tax on Buildings in the City of New York," by Edward Polak; "The Houston Plan of Taxation," by J. J. Pastoriza. One chapter summarizes the work accomplished by various state tax commissions, giving interesting figures.

IVES, GEORGE, M. A.

A History of Penal Methods. (Criminals, Witches, Lunatics.) Printed in Great Britain. 1914. 409 pp. \$3.16

Part of the author's task has been "to analyze the theories and assumptions on which the criminal laws are founded, and to exhibit their falsity." In this connection many instances of revolting and barbaric punishments are described. In the second place he endeavors to show the forces which play on people, the usual resistance, and the resultant conduct, with the purpose of aiding in classifying offenders on rational principles, in order that each may receive the treatment proper to his condition. His constructive suggestions are in favor of probation, parole, educational work in reformatories, parole on conditional release, humane and patient care of discharged men, and asylum treatment of those who cannot safely be restored to freedom.

LYTTON, CONSTANCE, and
WARTON, JANE, SPINSTER.

Prisons and Prisoners. (Some Personal Experiences.) 1914. 337 pp. Portraits.

\$1.10

A personal account of four imprisonments undergone by Lady Constance Lytton as a militant suffragette, first under her own name and later under the assumed name of Jane Warton. The sincerity, impressionability, and refinement of the writer's personality make her analysis of the effects of prison life upon the individual of unusual appeal. Imprisonment was sought for the purpose of studying these effects. The narrative is of interest as a contribution to literature upon prison reform, as a plea for militant suffragism, and as a study in psychology.

KELLAWAY, HEBERT J., Landscape Architect;
F. A. S. L. A.

How to Lay Out Suburban Home Grounds. Second Edition, Enlarged. 1915. 134 pp. Illustrated. \$2.15

Landscape architecture as a practical art becomes each year more universal, not only in the large public and private undertakings, but also in less pretentious suburban homes. It is this latter class of dwellings with which the book is concerned. The prospective home-builder should first exercise care in the selection of the site and not be too hasty to start construction. In every locality there is a need for initial planning, for esthetic as well as economic reasons, and each site presents conditions and opportunities of which advantage should be taken in the development. The various steps in the above process are discussed in fourteen profusely illustrated chapters, and a thousand hints and suggestions are included which cover every phase of garden planting and arrangement, the choice of shrubs, plants and trees, disposition of hedges, how to make lawns, and the use of architectural adornments.

AMERICAN ASSOCIATION FOR STUDY AND PRE-
VENTION OF INFANT MORTALITY.

Transactions of the Fifth Annual Meeting. (Held in Boston, November 12-14, 1914.) 1915. 391 pp. \$3.12

"Saving the babies and teaching the mothers" is the theme taken up in this volume under the four main divisions of Prenatal Care, Obstetrics, Public School Education, and Nursing and Social Work. In the main, the work to be done is regarded as distinctly a public health problem. The reader gains a first-hand idea, from those who have been most prominent in this new and important movement, of the progress that has been made and of the lines along which it is desirable to direct future efforts. Among the many interesting papers may be mentioned "The Development of Prenatal Care in the United States," by Mrs. Max West of the Federal Children's Bureau at Washington, and "Some Possibilities of the Public Schools in Reducing Infant Mortality," by David Snedden, Ph. D., Commissioner of Education in Massachusetts.

PICHT, DR. WERNER.

Toynbee Hall and the English Settlement Movement. (Revised edition, translated from the German by Lilian A. Cowell, Girton College, Cambridge.) London, 1914. xii + 248 pp. 2 charts.

\$1.33

An historical and critical account of the English settlement movement, with special reference to Toynbee Hall, the "Mother of Settlements." Excursus I contains a detailed history of the University Extension movement, and explains why it has failed to reach the working man. In Excursus II is shown how this problem has been solved by the Workers' Educational Association. The appendix gives a list of settlements in Great Britain, with a short description of each.

BOSANQUET, HELEN, LL. D.

Social Work in London (1869-1912): A History of the Charity Organization Society. 1914. x + 420 pp. Frontispiece.

\$3.13

The first part of the volume chronicles the origin and internal development of the Charity Organization Society. In part two is developed the wider theme of the principles which the Society translates into action, and their application to the problems of London life. Under this section are included activities in connection with housing and sanitation; the care of the defective, the sick, the poor, children; pensions; winter distress; and miscellaneous needs. The history is authorized, though not official. It puts the reader in touch with most of the philanthropic movements in London, voluntary and official, during the last half century.

DEARLE, N. B., M. A., Shaw Research Student
of the London School of Economics and
Political Science, 1907-9.

Industrial Training. (With Special Reference to the Conditions Prevailing in London.) Studies in Economics and Political Science, No. 39, London School of Economics. London, 1914. xiii + 596 pp. \$2.80

Based upon a study of actual conditions in the leading trades in Greater London. The author, after setting forth his problem, analyzes the four main methods of acquiring a trade, namely, "regular service," "migration," "following up," and "picking up," comparing their relative value. He then devotes a number of chapters to actual conditions in London, summing up his conclusions in a final chapter entitled "The Needs of the Future." The fact that almost every form of industry is to be found in London, carried on in establishments of various sizes, makes this study of particularly wide interest.



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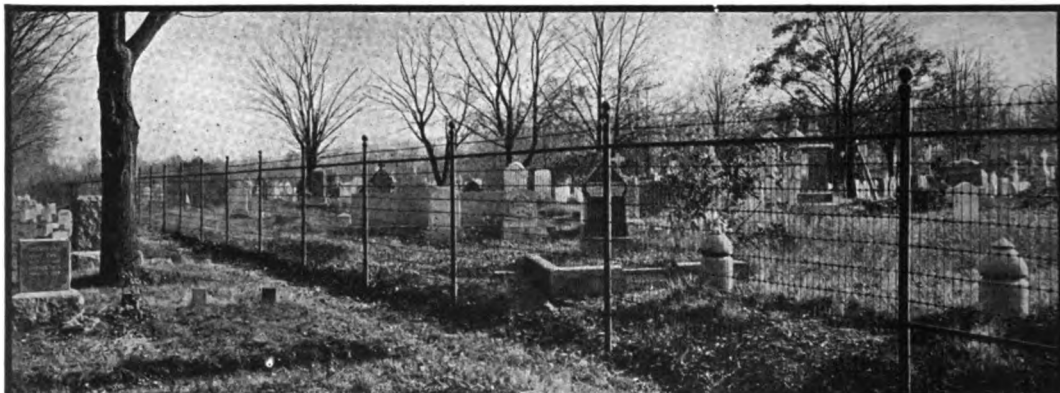
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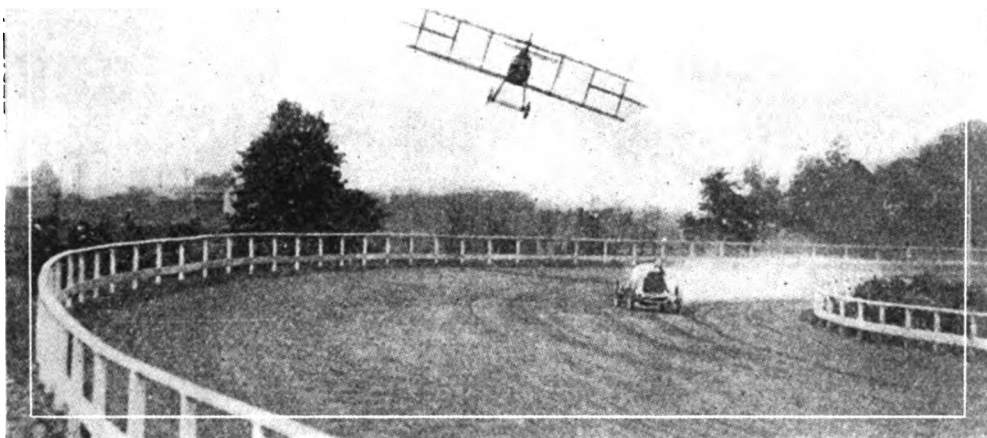
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BARNEY OLDFIELD RACING WITH THOMPSON AT THE FIRESTONE PICNIC

The Institute of Paving Brick Manufacturers

Like most organizations that fill a real need this institute is less the result of a deliberate plan on the part of an organizer than the outgrowth of a spontaneous desire on the part of certain manufacturers for more intensive practical study into brick-making problems. Certain conferences held at the time of the Detroit meeting resulted in the appointment of a meeting in Youngstown on May 25. Officers were elected there and a committee appointed to draw up a constitution and by-laws, which were adopted in a meeting at Canton on June 29.

The next meeting will occur at Alton, Ill., on September 22. The place is selected with a view to the opportunity it affords to visit the plant of the Alton Brick Company. It has become the rule of the Institute to combine plant inspection with theoretical study, and its investigations at Alton will be a continuance of those pursued at the plants of the Bessemer Limestone Company in Youngstown and the Metropolitan Paving Brick Company in Canton.

At the forthcoming Alton gathering inspection will occupy the day and the meeting will be held in the evening. A paper upon electric drives in paving brick plants by Eb. Rodgers will be a feature of this meeting.

The organization of this institute is an evidence of the new day that has dawned in competitive industry, a day when competitors take mutual pride in the advance of their profession, and realize that more is to be made by each through a reputation for good service

accruing to all than through jealousies and secrecy. The Institute is advancing one of the cardinal objects of the National Paving Brick Manufacturers Association and has its hearty approval and coöperation.

✦ ✦

The Firestone Picnic

Firestone Tire & Rubber Company has begun the publication of a new house organ, "The Firestone," and the August number contains an interesting description of the annual Firestone Picnic (attended by 15,000 "Firestoneites"), with pictures of the day's sports. Barney Oldfield in his Fiat Cyclone is shown racing with De Lloyd Thompson, the aviator, in his aeroplane. Other entertainment, such as ball games, races and water sports is vividly described and portrayed.

✦ ✦

Philadelphia Office for Austin-Western

The Austin-Western Road Machinery Company, of Chicago, Ill., has opened an office in Philadelphia at 314 Bulletin Building for the further convenience of its customers and others in that territory. Mr. E. M. Terwilliger, who has had many years' experience in the road machinery, and more especially in the road roller business, has been placed in charge of the office.

✦ ✦

Street Lighting Poster

The King Foundry Company, of St. Louis, Mo., has prepared an illustrated poster for distribution which advantageously displays its line of new standards for street lighting.



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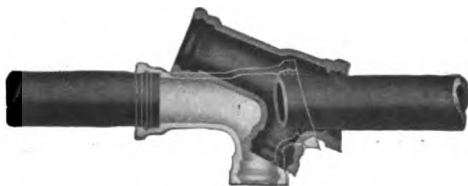
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Out of the Ruins

The fire which partially destroyed the Edison Phonograph Works in December, 1914, resulted in Thomas A. Edison conceiving the idea of a storage battery searchlight for use in connection with fire-fighting work at night. This searchlight equipment, as shown in the illustration herewith, consists of a 20-inch incandescent searchlight with a 750-watt Mazda nitrogen-filled lamp, having a mean candle-power of 1,500 and giving a reflected intensity at the axis of the beam of 1,100,000 candle-power. By means of an adjustable focussing attachment the beam may be concentrated to penetrate dense smoke. Or, by giving a wide angle, it will flood the sides of large buildings with light.

The Edison storage battery searchlight, whether used in the form of an individual unit as shown or attached to the fire apparatus, provides a safe and certain illumination at an instant's notice with no cost maintenance except a few cents, once or twice a year, for charging current—unless, of course, the lamp is being used. The perfected Edison storage battery searchlight is now ready for sale to municipal fire departments or private factory and industrial works owners. Further descriptive matter and illustrations may be secured from the Edison Storage Battery Company, Orange, N. J.

✦ ✦

An Economical Fire Fighter

The Davis Sewing Machine Company, of Dayton, Ohio, has published a new booklet descriptive of the Dayton Tri-Car Chemical, which is intended either as the ideal light equipment for metropolitan fire departments, or else as a complete fire-fighting outfit for small cities. No matter what the population of your municipality, if you are interested in fire protection, you will find this booklet of considerable interest. The up-keep expense of the Dayton Tri-Car Chemical is very low. The cost of renewing tires is not more than one-fifth of that for heavier motor apparatus. Each machine is equipped when it leaves the factory with Dayton airless tires of special fire truck type, which are puncture-proof. Other makes of tires are optional. The chemical tanks may be recharged at the mere cost of the chemicals—about 60 cents per charge. Add to this a small amount for oil and gasoline and you have practically all of the maintenance expense.



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FIRE FIGHTING

Grand Prize for Road Machinery Exhibit

The Austin-Western Road Machinery Company exhibit at the Panama-Pacific Exposition has been awarded the Grand Prize for the collective exhibit. This is unique, in the fact that it is the only Grand Prize for road machinery offered in the entire Exposition, so that no other individual road-making machine or collective road-making machines can receive such a high honor as this.

In addition to this special Grand Prize, the Medal of Honor has been awarded to the Austin and Western elevating graders, Austin gyratory crushers, Austin motor rollers, Austin street sprinklers and sweepers, Austin combined sprinkler and sweeper; and the Gold Medal has been awarded to this company's dump cars, jaw crushers, ditching machines, road graders, plows, reversible horse rollers, street oilers and motor lawn mowers, making a total of 16 prizes, viz.: the special Grand Prize and 15 medals.

✦ ✦

A Change of Name

The Pacific Tank & Pipe Company, of Portland, Ore., has changed its name to the National Tank & Pipe Company. The personnel of the new corporation remains the same and all water-works officials interested in the subject of wood water pipe are requested to keep the name and address of the National Tank & Pipe Company in mind when seeking quotations and information relative to this product.

THE AMERICAN CITY

MOTT LAMP POSTS



FAMOUS BOARDWALK, ATLANTIC CITY, LIGHTED WITH MOTT LAMP POSTS

WRITE FOR CATALOGUES AND PRICE LISTS
OVER ONE THOUSAND DESIGNS

FOUNTAINS

DISPLAY
FOUNTAINS
FOR
PUBLIC SQUARES
PARKS, ETC.

MANHOLE
FRAMES
GRATINGS

TREE GUARDS

WRITE FOR
CATALOGUES



DRINKING
FOUNTAINS

WITH
SANITARY
CUPS, ETC.

SETTEES

VASES

RAILINGS

STREET
SIGN POSTS

FOUNTAIN IN BEDFORD AVE., BROOKLYN, N.Y.

THE J. L. MOTT IRON WORKS

FIFTH AVENUE AND SEVENTEENTH STREET
NEW YORK CITY

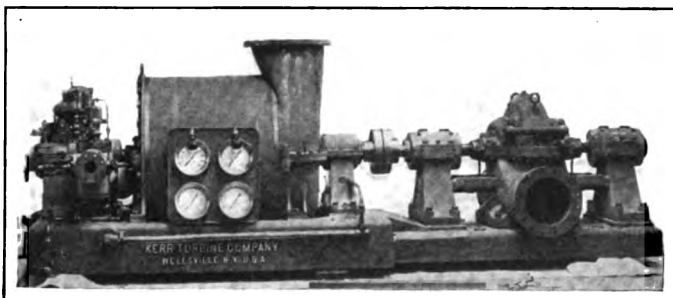
A Goodyear Gavel

When President T. J. Gough was about to call to order the Ohio Fireman's Association Convention at Bellaire, Ohio, on August 3, after surveying the top of the table with a worried and disappointed look for a gavel with which to bring the chatting firemen to attention, and which the committee evidently overlooked, the irrepressible I. E. Davies, of The Goodyear Tire & Rubber Company, of Akron, Ohio, saw an opportunity to render a valuable service to the Association.

Fishing from his pocket a section of Goodyear cushion tire mounted on a wooden base, Davies marched up the aisle to the president's table and deposited his offering there, to the great amusement of the convention. With the improvised gavel President Gough was able to bring the firemen to order and launch the convention, which by common consent is the most successful ever held by the Association.

The Fire Truck Tire Department of the Goodyear Company has issued a booklet entitled, "Vest Pocket Facts of Interest to Fire Chiefs." This booklet contains a list of cities in the United States and Canada using Goodyear tires on fire equipment, also several tables showing carrying capacities of different types of the tires.

To secure best results from rubber tires, either pneumatic or solid, it is very important that the weight of the machine be taken off of the tires while standing in the engine house. There are a number of efficient devices on the market for this purpose.



TURBINE PUMP OWNED BY CITY OF YOUNGSTOWN, OHIO

For Water-Works Pumping Stations

The Kerr Turbine Company, of Wellsville, N. Y., is distributing Bulletin No. 51, "Economy" Geared Turbines, which explains the advantages often obtained by interposing gears between turbine and driven generator, pump, blower or pulley, and also describes the new method by which "Economy" turbine gears are so accurately hobbled that no grinding or polishing is necessary for finish. These gears are said to be so quiet in operation that they make no more noise than the windage of a direct-connected outfit. A copy of this bulletin will be sent by the company on request.

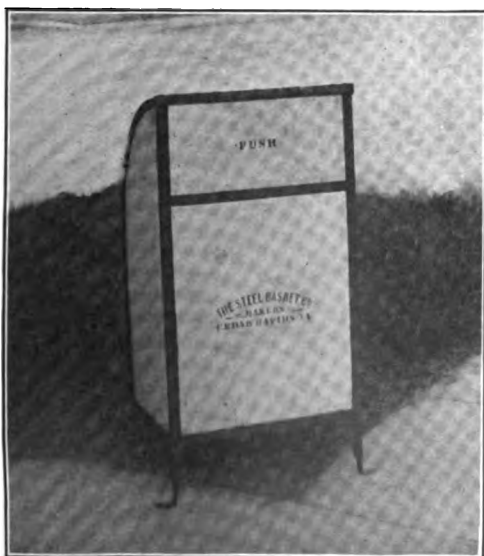
Recent sales to municipalities reported by the Kerr Turbine Company include the following: Atlantic City, N. J., an 18,000,000-gallon Economy Turbo-pump; Baltimore, a 500-kilowatt Turbo-generator; Williamsport, Pa., a 425-horsepower turbine for driving a pump; Youngstown, Ohio, two 250-kilowatt Turbo-alternators. The exports include orders for the East Hull Gas Company, Groves, England; the Corporation Gas Works, Birkenhead, England; and Armour de la Plata, Argentina.

The photograph herewith reproduced shows one of three "Economy" steam turbine-driven pumping units recently shipped to the city of Youngstown, Ohio. Each pump has a capacity of 5,000 gallons per minute against a head of 250 feet, and is direct-connected to an 800-horsepower condensing multi-pressure stage turbine with oil relay governor.

✦ ✦

Trash Cans for Street Corners

The Steel Basket Company, of Cedar Rapids, Ia., has published an interesting booklet showing various designs of refuse cans for park, cemetery and street use. The type of can illustrated herewith is one which has proven very popular and serviceable for street corner service. This can is made of heavy material, and in such a manner as to stand the abuses to which such cans are subject, and has the desirable feature of being entirely closed, completely hiding the contents. The Steel Basket Company makes a specialty of working out any individual ideas which municipalities or individuals may wish to suggest in the refuse can line, and will gladly submit prices and sketches on request.



A POPULAR TYPE OF STREET CAN

Almost Unanimous

650 cities have ornamental street lighting.

586 of them use Alba.

Alba Ornamental Balls

are attractive, efficient, and make the best use of the light—economy.

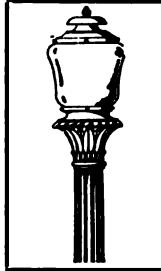
That's why 9 out of 10 use Alba.

**Macbeth - Evans
Glass Company**
Pittsburgh



YOUR TOWN'S BEST ADVERTISEMENT

is a MORRIS Ornamental Street Lighting System.



Morris unit for High Efficiency Nitrogen Lamp—Design, No. 3083-1 (Form "D")

Hundreds of cities and Towns use MORRIS CAST IRON STANDARDS including the City of New York where MORRIS STANDARDS have the *approval of the Municipal Art Commission.*

MORRIS STANDARDS withstand all weathering action ensuring *Maximum Service.*

Over 500 Designs for Every Requirement.

Ask for Catalogue.

ELMER P. MORRIS, Sales Agent

136 LIBERTY STREET, NEW YORK

Representing

CENTRAL FOUNDRY COMPANY

Operators and Sole Owners of Foundries at

Anniston, Ala. Holt, Ala. Bessemer, Ala. Medina, N. Y.
Newark, N. J. Vincennes, Ind. Baltimore, Md. M-62

A High Candle-Power Single Light

A standard like this offers a very economical method of lighting streets efficiently. The initial cost is low as is also the maintenance cost.

This standard is free from excessive embellishment, thereby heightening the decorative and imposing lamp design.

The old style swinging arc lamp is being rapidly displaced by such designs as these. The first installation in New Haven, Conn. has been followed by Baltimore, Rochester, Cincinnati and other large cities.

Our new catalogue will show you many designs. Write for it today.

**The
Casey-Hedges Co.**
Chattanooga, Tenn.



The Coleman Boulevard Lamp

Makes and Burns its
Own Gas from
Gasoline or Kerosene

It is made of cast iron, copper and brass. Will not rust out. Stands 12 feet high. Is storm proof and bug proof.

It gives a strong, white light and throws it down on the street and sidewalk where it is wanted and not up among the tree tops.

Giving 1000 candle power, midnight service costs 3 cents per lamp per night. All night service 5 cents per night. In competitive tests we have never failed to show the lowest operating cost of any gasoline or electric light made.

It is lighted and turned on from the ground in less than a minute. It is thoroughly practical and the extra "gas producer" insures against failure. Also made to give 300 candle power.

Write nearest house.

The Coleman Lamp Co.

Wichita, Kansas
Toledo, Ohio
St. Paul, Minn.
Dallas, Tex.



Liquid Fly-Killers and a Tea Party

Is the heading under which a recent issue of *The Survey* tells the story of a little girl near Atlanta, Ga., who as hostess to her dolls at a tea party gave them in mistake instead of tea a cup of poisoned fly-killer, some of which she also drank, with the result that she died four hours after, adding one more to an already too long list of fatalities from this cause.

✦ ✦

Retires from the Motor Fire Apparatus Field

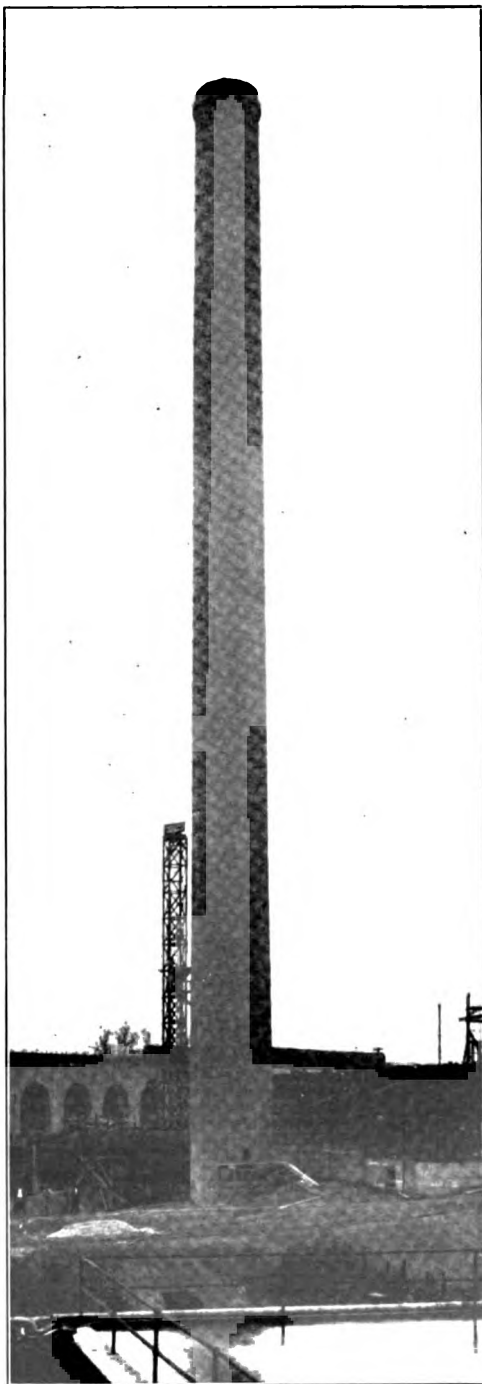
Mr. E. A. Wilkinson has announced his resignation from the Nott Fire Engine Company, under date of August 16; also his withdrawal from the manufacturing and selling of motor fire apparatus, with which he has been connected for eighteen years. Mr. Wilkinson has made arrangements with the King Motor Car Company, of Detroit, Mich., to act as District Distributor for the northwestern part of Ohio, with headquarters at Toledo, where he will be glad to welcome his many friends whenever they are in the vicinity.

✦ ✦

Chimneys Built to Withstand Storms

The reinforced concrete chimneys built by The Weber Chimney Company, of Chicago, are used in connection with all types of boilers, for all kinds of copper, zinc, lead and other smelting purposes, heating and ventilating, malleable iron and glass furnaces, garbage incinerators, etc. The type of construction has been standardized, and is known as the Weber conform chimney, so named because it is built in the form of a true frustum of a cone, being a true circle and having a uniform thickness of walls at any given cross-section throughout. Special designs are prepared to suit special conditions of space, foundation and other local factors.

A description of the manufacture of these chimneys and a statement of their advantages is given in the company's booklet called "Weber Chimneys." Many views of these chimneys erected in various places are included, one of which, in Youngstown, Ohio, is herewith reproduced. A long list of users is also given. The reinforcement of the chimneys consists of vertical steel bars encircled at regular intervals by steel rings properly bent to the required circle, the weight and number of these bars being entirely dependent upon the dimensions of the chimney, etc. The joints of bars connecting lengthwise are made very irregular to prevent many joints at one height. All the tensile stresses due to wind pressure, etc., are taken up by the vertical steel reinforcement. All the mixing is done at the base of the chimney, and therefore inspection can be readily made before the concrete is placed in the form. These chimneys have often demonstrated by actual tests that they withstand the most extreme wind storms without their stability being affected in the least. This company also constructs towers and other types of circular wall construction.



WEBER CONFORM CHIMNEY, ERECTED FOR THE CITY OF YOUNGSTOWN, OHIO

Union Metal LAMP STANDARDS

GIVEN HIGHEST AWARD

PANAMA PACIFIC INTERNATIONAL EXPOSITION

THE ABSOLUTE SUPERIORITY OF UNION METAL PRESSED STEEL AND PRESSED COPPER LAMP STANDARDS HAS BEEN RECOGNIZED BY THE JURY OF AWARDS OF THE PANAMA-PACIFIC INTERNATIONAL EXPOSITION TO THE EXTENT THAT THEY HAVE GIVEN OUR COMPANY THE HIGHEST AWARD.

POINTS OF SUPERIORITY:—

- (1) They are Handsome, Clean Cut, Massive.
- (2) They have great strength and durability.
- (3) They are the "Safety First" Standards.
- (4) They have scientific sectional construction.
- (5) They insure against deaths and accidents.
- (6) They serve as shock absorbers to protect lamps and glassware.
- (7) They have light weight, consequently low freight and low cost of erection.
- (8) Sectional construction gives great flexibility in choice of design.
- (9) They are the modern standards—infinitely superior to cast iron.
- (10) THEY ARE COVERED BY AN ABSOLUTE TWENTY YEAR GUARANTEE.

Send for complete Catalog of Designs

The Union Metal Mfg. Co.

Canton, Ohio

Design 1471
(Patented)

Design 569
(Patented)

30 DAYS' FREE TRIAL

MAYOR — ALDERMAN
— MERCHANT

Without risk to you, or to any one of you, we will ship to your town one of our famous ACORN BOULEVARD ARC STREET LAMPS fitted with our automatic extinguishers on thirty days' trial. The lamp will produce 2,000 candle power and light your streets as bright as day, with the closest approach to sunlight ever invented by light engineers.

It has been placed everywhere in competition with gas, naphtha, acetylene, electricity and every known form of modern lighting, and is pronounced by all who see it the handsomest street lamp ever installed.

Make Us Prove Our Claims

Keep track of actual running costs—watch it under the most unfavorable weather conditions—see it extinguish itself at the appointed hour—satisfy yourself that it does the work; then order as many additional lamps as needed at our special price.

Remember it is shipped for trial free of all cost excepting transportation and the gasoline used in the trial—if not as represented there is no obligation to buy.

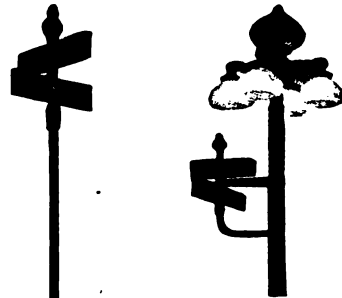
Full description and special Introductory Proposition sent you upon request. Hundreds of Cities, Towns and Villages now using.

Write us to-day—Now

ACORN BRASS MFG. CO.

CHICAGO, U. S. A.

ENAMELED IRON SIGNS



ARCHER AV.

ENAMELED IRON SIGNS
WROUGHT IRON POSTS
"ROYAL" SIGN BRACKETS

Send for Catalogue

ROYAL ENAMELING & MFG. CO.

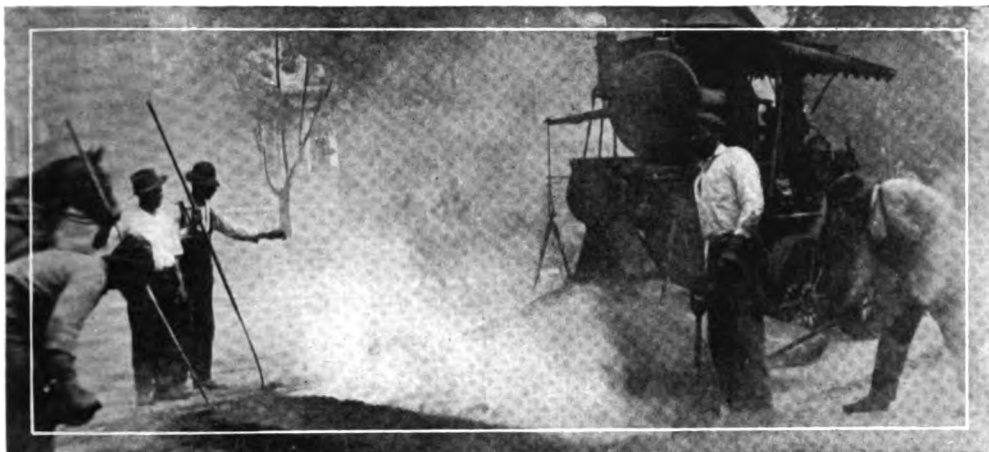
General Offices:

326 W. MADISON STREET

CHICAGO

Factory:
DES PLAINES, ILL.

For Contractors and Boards of Public Works



ST. PAUL STREET REPAIR DEPARTMENT USING THE LUTZ HEATER

A Portable Paver

"Practical Methods Applied to Modern Paving" is the title of an interesting collection of views published in pamphlet form, with comment, by The Equitable Asphalt Maintenance Company, of Kansas City, Mo. This company is the manufacturer and lessor of the Lutz surface heater, a machine to repair, resurface and maintain asphalt and other bituminous pavements, cementing asphaltic or other bituminous pavements on granite, brick, cobble or other hard pavements. The pamphlet opens with a picture of this machine, and the rest of the illustrations show city streets where the machine is in action or where it has been used.

The Lutz method consists in drawing a large volume of air, heated to the proper temperature, from a heating chamber, and blowing it with great force upon the asphalt or other bituminous pavement, thereby gently heating and softening without flame the old pavement to the consistency of the new material. Then with the use of hoe and rake all disintegrated materials, uneven or worn surfaces, are removed and joints cut, and while the pavement is still hot sufficient new material is added to bring up the grade and contour of the street. The temperature of both materials being at the vulcanizing point, when the surface is tamped, smoothed and rolled, a perfect weld is produced. In laying an asphalt pavement upon an old stone or brick surface it is sometimes difficult to prevent the asphalt from creeping or shoving. It is claimed that by the use of the Lutz method every square inch of the underlying surface of the asphalt adheres firmly to the old pavement. After a thorough cleaning of the pavement it is heated gently as above explained; under this heat the pores of the brick or stone are opened, and while still heated it is painted with hot liquid asphalt. After the pavement has cooled and the pores are closed the new asphalt mixture is applied, which is

said to make a perfect adhesion, rendering complete a smooth, noiseless and sanitary street, easy of traction and easy to keep clean.

✦ ✦

The Aztec Way

is the title of a circular booklet issued by the U. S. Asphalt Refining Company, of New York, containing a number of interesting illustrations of streets and roads on which Aztec sheet asphalt, Aztec liquid asphalt, or Aztec road binder has been used. In addition to sheet asphalt pavements, Aztec asphalt is also used for asphaltic concrete pavements, asphaltic macadam pavements, brick and block filler, waterproofing, roofing, etc.

✦ ✦

"City Special" Dump Wagon

Catalogue No. 1,005, issued by Studebaker, South Bend, Ind., refers particularly to bottom dump wagons and dump boxes, and includes illustrations of the 2-yard and 3-yard "City Special" dump wagon, which is particularly designed for municipal service. Other illustrations of special interest to municipal officials are those of Studebaker "Refuse Wagons," designed for light loads such as ashes, rubbish, etc.

✦ ✦

Perfection Plant to Racine

The J. I. Case Threshing Machine Company of Racine, Wis., has taken over the plant and equipment of the Perfection Road Machinery Company of Galion, Ohio, makers of Perfection road graders, drags and rooter plows. The product of this company has been sold exclusively by the Case Company for several years. The Perfection plant will be moved from Galion to Racine and the graders, with added improvements, will be manufactured and sold hereafter as Case graders.

Sun Gasolabra Street Lighting

To save money in installing ornamental street lighting systems, municipalities should require prices on Standards delivered f.o.b., city, and also prices for making the installation separately.

Up-to-Date Municipalities or Engineers should write at once before installing any ornamental cluster systems to

The Sun Street Lighting Co.

1501 Market Street
CANTON, OHIO



Artificial Daytime

As the sunlight fades away, the ornamental lighting systems in hundreds of cities flash on — brightening streets and boulevards — driving away darkness — extending daytime five to eight hours.

CUTTER Standards

have helped to establish artificial daylight in many cities in all climates.

Our posts are built from experience gained through twenty-five years serving the public in cities throughout the country. We have been building the very highest quality of lighting fixtures and giving, always, adequate service.

An Engineering Department has been installed to further assist you in planning for better lighting in your city. We will be glad to give you help gratis.

Write for our new catalog No. 13, showing our latest designs for High Efficiency Mazda Lamps.

Geo. Cutter Co.

413 Notre Dame St.
South Bend, Ind.



A KING
WHITE WAY
IS
EFFICIENT
AND
ORNAMENTAL
MANY DESIGNS
PRICES RIGHT
CATALOG
AND
"KING SELLING
PLAN" FREE

KING FOUNDRY CO., St. Joseph, Mo.

BONDS

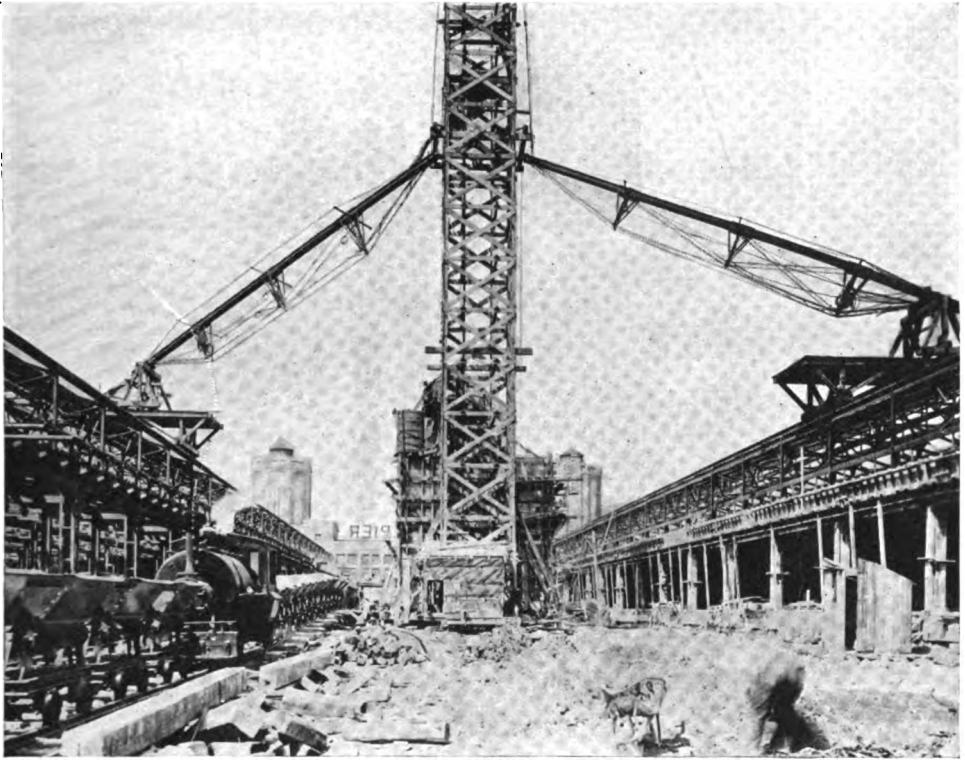
29 years' experience in the manufacture of all kinds of bonds and certificates—including Municipal Government, Public Utilities, Industrial and Commercial—enables us to produce such documents technically, as well as mechanically perfect.

It will be worth your while to consult us on your next issue.

ALBERT B KING & CO INC
204 BROADWAY

ESTAB. 1886

NEW YORK CITY



ERECTING CONCRETE PIER FOR CITY OF CHICAGO

Chicago's Municipal Pier

The new concrete pier being erected by the city of Chicago, as shown in the illustration herewith, is probably the largest structure of its kind ever built into fresh water. It is double-decked over all, 292 feet wide and 3,000 feet long, and the superstructure, which is entirely of steel and concrete, rests on a sub-structure of piles which alone cost \$1,000,000. The total cost of the pier will be about \$4,000,000. The Marsh-Capron Mfg. Company, 485 Old Colony Building, Chicago, Ill., feel justified in taking considerable pride in the statement that every yard of the concrete used in the construction of the superstructure of this mammoth pier is being mixed with Marsh-Capron Rail-Track mixers. Every public official having to do with cement or concrete work is invited to write for the Marsh-Capron catalogue, which contains material and statistics showing why Marsh-Capron concrete mixers are particularly economical and effective in connection with concrete construction work of all kinds.

✦ ✦

Granite Block Paving

"Permanent Paving" is the title of an interesting illustrated booklet of 16 pages published

by the Granite Paving Block Manufacturers' Association of the United States, whose offices are in Boston. This sets forth the advantages of granite block as paving material, claiming that it is wear-resisting, tough and free from chipping and flaking, and, being close-grained, free also from the absorption of impurities. Many views are given of streets paved with this material, with statements as to the absence of maintenance cost for periods of years. An especial point is made of this saving in upkeep expense. The improved granite block is small; it is carefully made, with hand-dressed head and sides, which permit the laying of the block with very small joints, giving an even-surface roadbed. The joints are filled either with a grout of one part Portland cement and one part sand, or with a bituminous filler. They are laid on a foundation of concrete with a slight sand cushion between the blocks and the concrete. This makes a pavement which is waterproof, sanitary, easy to clean, and with a smooth, even surface which minimizes the noise. The texture of the granite surface permits both rubber and steel tires to take hold, so that easy, non-slippery traction is given. The pamphlet contains a list of some of the American and foreign cities where granite block paving is in use.

VINE ST.

A Glimpse Into the Year 2015

After one hundred years roll past,
through storm and sunshine, even
though badly handled and knocked by
stones—even then—you will be able
to read

Indestructible Signs

"The Signs that Outlive Father Time"

One hundred years is a long, long time to keep signs in
good condition, but you can be sure that Indestructible
Signs will remain readable all that time.

How could they be otherwise?

They are not made like other signs. They are
built from the rust-resisting iron "Armco" (Am-
erican Ingot Iron) the most durable iron manu-
factured. The letters of the sign are drilled into
the plate, then filled with bright aluminum, thus
making them stand out clearly yet indestructibly
and permanently.

The letters can never be erased. Even though
the outer coat of paint wear off, the letters will still
be readable.

Your citizens will never complain of battered
signs when they have Indestructible Signs on every
corner. Write now for our booklet telling you
some more facts regarding "The Signs that out-
live Father Time."



BROADWAY

The Indestructible Sign Co.

528 Denison Ave., Columbus, Ohio

Sales Agents, The Good Roads Machinery Co.
Kennett Square, Pa.



THIS emblem is more than a trade-mark device. It stands for the experience, ability and business integrity of a long established house. So that any article upon which it appears is not merely offered for sale; it is meant to give service. And that every J-M Product shall give this service fully and permanently, is the whole meaning of J-M Responsibility.

J-M Asbestos Roofing and Siding
J-M Transite Asbestos Shingles
J-M Mastic Flooring
J-M Waterproofing Materials
J-M Cold Water Paint
J-M Transite Asbestos Wood

J-M Lighting Systems
J-M Insulating Felts and Papers
J-M Cork Floor Tile
J-M Acoustical Correction
J-M Asbestos Moving Picture Machine Booths
J-M Pipe Coverings

H. W. JOHNS-MANVILLE CO.
NEW YORK AND EVERY LARGE CITY

3095A



Save ½ the Cost of a New White Way

The cost of installing new standards in your city may be prohibitive.

However, your street railway company must have trolley poles on which to hang their wires. Why not, then, get them to co-operate with you in securing

ELRECO Combination Poles

—which will give you a white way as fine as any city at a much lower expense.

Wooden poles are an eyesore. ELRECO poles are an improvement and will last much longer.

Put in the Mazda Type "C" Lamp and you will have brighter business streets at a low maintenance expense.

We have placed ELRECO poles in Pittsburgh, Niagara Falls, Milwaukee and other cities. Let us send you our catalogue "D" showing our complete line.

We Save You
the cost of underground construction.
the cost of extra lamp standards.
the expense of high maintenance costs.

Electric Railway Equipment Co.
New York Office
30 Church Street
Cincinnati, Ohio

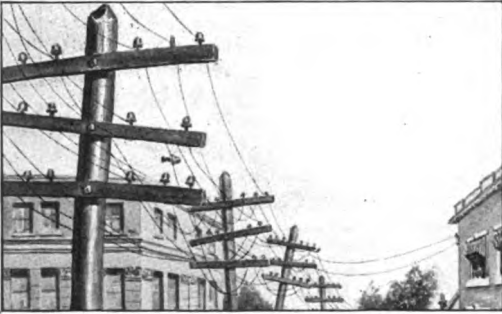
Hidden Factors of Service



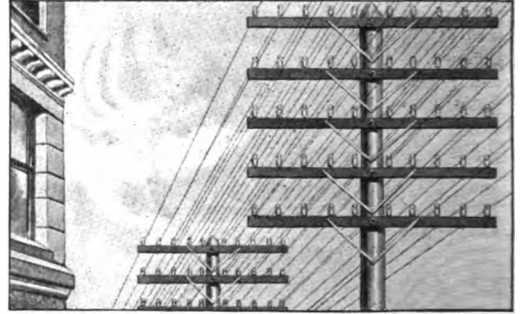
Records kept like this are practically useless for the management of a business. Efficiency is impossible and funds for improvement cannot be obtained.



Records, statistics and accounts kept like this are available for a complete knowledge of the cost and efficiency of each department of the business.



Such methods result in a telephone line which can give only poor service.



The result of such records is a telephone line like this, which gives good service.



The subscriber knows the difference! He demands a well-informed, intelligent business management.



**AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES**

One Policy

One System

Universal Service

Build up Your Business Library

"In order to build a fortune one must learn to use the tools of trade"

Citizens in Industry

By CHARLES RICHMOND HENDERSON.

Late Professor of Sociology, University of Chicago.

With efficiency as its keynote, this work by an authority on sociological problems will prove an invaluable aid to the employer and to the employee as well as to the social worker. \$1.50 net.

Life Insurance

By SOLOMON S. HUEBNER, *Professor of Insurance and Commerce, University of Pennsylvania.*

A complete exposition of the principles of life insurance, representing years of work by the author under the supervision of the National Association of Underwriters. \$2.00 net.

Retail Selling and Store Management

By PAUL E. NEYSTROM.

A valuable work for the retail store manager or salesperson, taking up in detail the problems of the retail store and the various activities with which sales people are closely connected. \$1.50 net.

The Business of Advertising

By EARNEST ELMO CALKINS, *of Calkins and Holden.*

The only book which gives a comprehensive view of the entire field of advertising work. A book for manufacturers, retailers, and consumers, but especially for those who would make advertising a profession. Illustrated. \$2.00 net.

Advertising and Selling

By HARRY L. HOLLINGSWORTH, *Instructor in Psychology, Columbia University.*

A study of psychology of appeal and response in modern advertising written in popular style for the general reader as well as for the specialist in the advertising field. \$2.00 net.

Money and Banking

By JOHN THOM HOLDSWORTH, *Dean of the School of Economics and Finance, University of Pittsburgh.*

Covering the origin and progress of banking in the United States from 1792 to the present day, including a discussion of the new Federal Reserve Act and its probable effects. The text of the act is given in full. \$2.00 net.

Railroad Accounting

By WILLIAM E. HOOPER, *Associate Editor of "The Railway Age Gazette."*

This book analyzes the ends which accounting attempts to accomplish according to the comprehensive system of accounting formulated by the Interstate Commerce Commission after five years of serious investigation. \$2.00 net.

Corporation Finance

New Edition

By EDWARD S. MEAD, *University of Pennsylvania.*

This volume describes the procedure of financing a corporation, including the raising of money for construction, etc., the distribution of corporate earnings, the different types of the securities issued to obtain new funds, and the considerations influencing the selection of these securities, etc. \$2.00 net.

D. APPLETON & COMPANY—PUBLISHERS—NEW YORK



A New York City Recreation Playground

The Children's Playground

where children play—build up health and strength—there is the place for a Columbia Grafonola and Columbia Double-Disc Records. Indoors or outdoors Columbia Records furnish the best of the world's cultural music.



The "Playground Special"

The Columbia "Playground Special" type B II has the well-known Columbia tone plus a carrying power that makes it the ideal outdoor instrument.

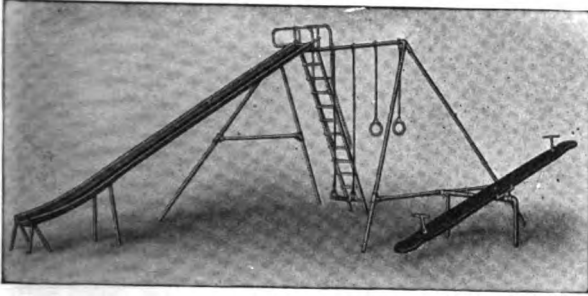
COLUMBIA

GRAPHOPHONE COMPANY

*Send for our complete
Grafonola Catalog and
"School Room Music."*



**Woolworth Building
NEW YORK CITY**



All Steel Playground Apparatus

Catalog No. 15 illustrates a complete line suitable for all conditions.

The "Eureka" patent All Metal rust-proof slide is made in various sizes.

The Ashland Mfg. Company
Dept. 14, Ashland, Ohio

"He who helps the child helps humanity"

Help the boys and girls by supplying them "American" Playground Apparatus. We have some exclusive features.

Satisfied customers from Maine to California and from Canada to Porto Rico.

Write for large illustrated Catalog.

**AMERICAN PLAYGROUND
DEVICE CO.**

200 Factory Place, ANDERSON, Indiana, U.S. A.



Spraying Economy



FITZHENRY-GUPTILL CO.,

Power Sprayers and Equipment

60 N. Washington St.,
Boston

135 First Street,
E. Cambridge



The Health Merry-Go-Round

furnishes Entertainment, Exercise and Health for the children.

Especially adapted to the needs of
**Parks, Playgrounds, Schools and
Kindergartens.**

Guaranteed to be free from defects—
Durable, Safe, Simple.

Write for Illustrated Catalogue

THE HEALTH MERRY-GO-ROUND CO.

Dept. K-14

QUINCY ILL.



DEPARTMENT OF PUBLIC IMPROVEMENTS

Office of City Forester

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R. BROOKE MAXWELL, City Forester

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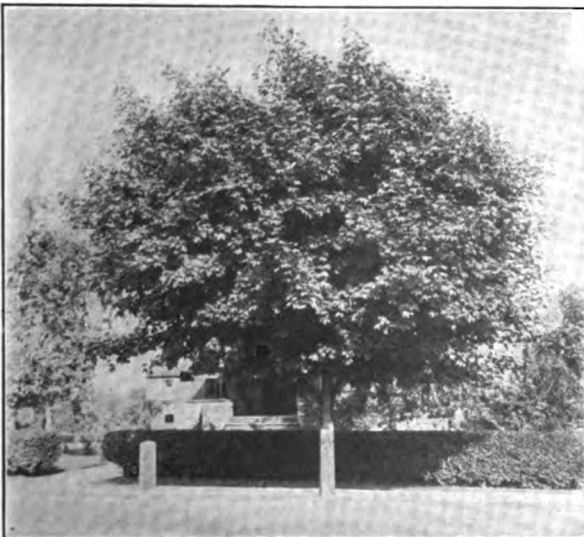
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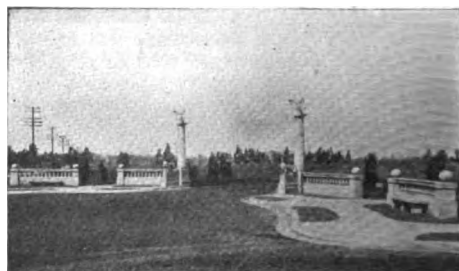
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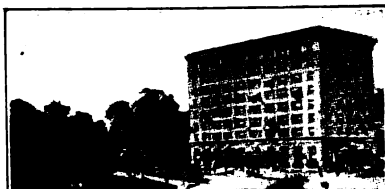
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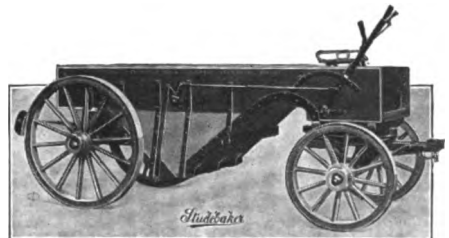
The Natural Dust Layer. A clean, white chemical salt, both odorless and harmless. A great economy in road maintenance, as it protects against raveling and deterioration; satisfactory alike to horse-drawn vehicles, automobiles and pedestrians.

"Solvay" is easy to apply, requiring no skilled labor. It comes in air-tight steel drums, ready for use.

Send for free copy of the "Solvay Road Book." It is interesting and informative. Splendid opportunity for local agents. Write today!

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Stone Spreading Wagon

STREET SPRINKLERS	DUMP WAGONS
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ROAD OILERS	HARNESS

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Repressed Block and Dunn Wire-Cut-Lug Block
ALTON, ILL.



The
ASHTABULA SHALE BRICK CO.
Makers of "BULA BLOCK"
ASHTABULA OHIO



*"A Paving Block
as good in appear-
ance as it
is dependable."*



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YOUNGSTOWN, OHIO

*Repressed Bessemer Block and
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CLEARFIELD BRICK MANUFACTURING CO.

Shale and Fire Clay Paving Block
TWO PLANTS LARGE CAPACITY
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THE DANVILLE BRICK COMPANY

Danville Recessed-Lug and Dunn's Wire-Cut-Lug Blocks
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**27 Years'
Service
Reveals
Superior
Quality**



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HILLSIDE BLOCK ALWAYS IN STOCK
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Manufacturers
**Shale Paving Block and
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Large Capacity

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Manufacturers of **HOCKING REPRESSED BLOCK
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The **MAYER BLOCK** is Unequaled
in Abrasion Test

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"Best Paving Block Made"

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MURPHYSBORO PAVING BRICK COMPANY

Equal to
the Best.

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Surpassed
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MURPHYSBORO, ILLS.

PROMPT DELIVERIES.

LET US QUOTE YOU PRICES.

The Peebles Paving Brick Co., Portsmouth, Ohio.

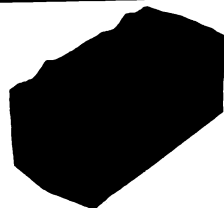
Manufacturers of

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Representing the Highest Degree of Efficiency

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Annual Capacity:
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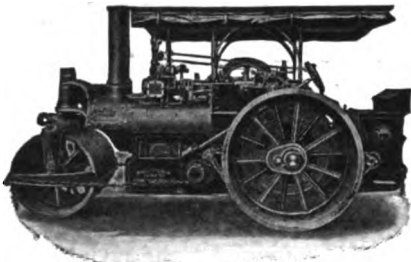
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Daily Capacity
100,000
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Trimble, Ohio
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Buffalo Pitts Macadam Roller

Buffalo Pitts Road Rollers

Our Macadam Rollers have made a record for durability and efficiency that is unequalled.

Used exclusively by the leading municipalities and contractors. Built in all sizes up to 30 tons. Write for catalogue.

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BUFFALO, N. Y.

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**UNSURPASSED FOR
ANY TRAFFIC**

WRITE FOR REVISED
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**NATIONAL PAVING BRICK
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WILL P. BLAIR, SECRETARY
ENGINEERS BLDG. CLEVELAND

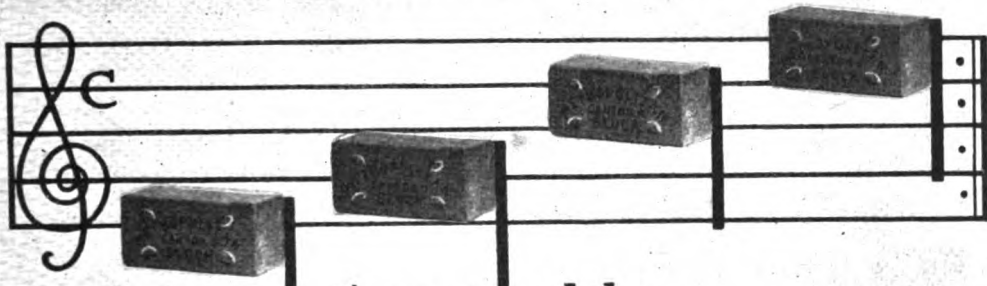
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U.S. MODEL VITRIFIED BRICK ROADWAY AT CHEVY CHASE, MD.

THE AMERICAN CITY

"EVERYBODY'S SINGING IT"

"BEST PAVING BLOCK MADE"



Composed by
THE METROPOLITAN PAVING BRICK CO.
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NEW WAYS TO MAKE HIGHWAYS

EVERY contractor, engineer, supervisor or path-master should read the new book we have prepared to explain the many ways to use



Red Cross Explosives FOR ROAD BUILDING

The book also covers the details of construction and maintenance not requiring explosives and is fully illustrated by half-tones and sectional drawings showing how to apply the methods described.

Learn the modern, labor-saving and expeditious plans recommended in this practical book.

For Road Building Booklet, Address Dept. 406

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PORTABLE STEEL DERRICK with Gondola Car Attachment for HANDLING PIPE or other heavy material from gondola cars.

Catalog illustrating the Taylor Portable Steel Derricks furnished on application.



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Repair your own Streets
and Save Money**

There is work in every city for Littleford Tar Heaters and Gravel Driers to do.

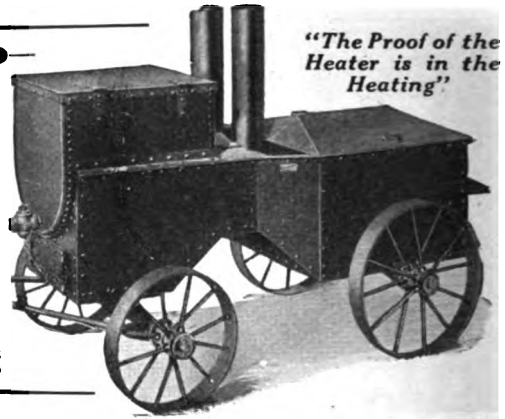
Asphalt and brick streets need repairing all the time. Your street department can repair them. It will save money.

The Littleford is built especially for such work—strong and durable.

We manufacture all styles of asphalt and tar heaters.

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*"The Proof of the
Heater is in the
Heating"*



SANITARY CARTS

(Patented)

For Garbage, Night Soil, Material from Sewers, Lanes, Etc.

MADE FOR 1 OR 2 HORSES. Write for Catalogue

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**Good Roads Making
Successful Concrete Building**

CALL FOR

The "Rail-Track" Line

Backed by endorsements from leading contractors the country over, these sturdy, compact mixers and pavers have won first place on merit.

**MARSH-CAPRON
PAVERS, MIXERS & GROUTERS**

Furnished in sizes and with equipment to fill every contractors' need. Write to-day for Catalog

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The Austin Pressure Oil Distributer

has been adopted by leading road authorities owing to its superior method of distribution and its convenience in operation. The driver controls all operations from his seat. A second man is not required.

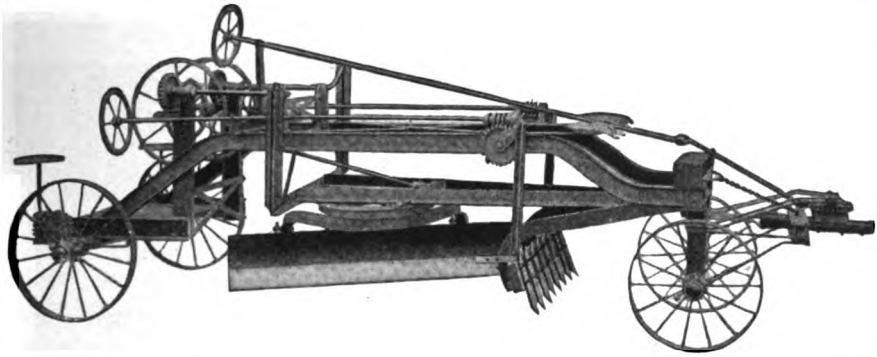


The machine will handle any of the lighter grades of asphalt or tar without heating and when fitted with our improved heating attachment, will handle heavy grades most satisfactorily.

Full details and expert information as to the best methods of accomplishing this work are gladly furnished by us on application.

THE AUSTIN-WESTERN ROAD MACHINERY CO., Chicago

We manufacture a full line of road-making, earth-handling and rock-crushing machinery



THE PANAMA GIANTTM

WITH ROAD MACHINE SCARIFIER



Economy, Efficiency and Perfection

This machine is pronounced by capable judges, the most perfect Road Machine ever built. Its varied adjustments and the Scarifier and Offset engine pole attachments give a very wide range of use. Built for tractor use. In strength, durability, ease and convenience of operation, and range of work, it is pre-eminent.

The Scarifier

Can be used in connection with the blade, or drawn up and out of the way so blade can be used alone. Makes the Giant capable of performing the functions of two machines. Does the best resurfacing and grading at the lowest possible cost. Efficient and economical in operation.

The Offset Engine Pole

By setting the pole at any desired angle, the grader will travel offset at either side of the path of the machine. Two or three graders may be worked with a single engine by placing each grader a little ahead of the other and offset at various distances or on opposite sides with engine in the center.

Materials Used in Construction

In constructing the Giant Road Machine, the best obtainable steel and malleable iron are used exclusively, except in a very few parts where there is no particular strain. All parts subject to strain are thoroughly braced. Will withstand the severest strains and hard service.

Specifications

"Panama Giant" without attachments, 3,300 lbs.

"Panama Giant" with Steering device only attached, 3,700 lbs.

"Panama Giant" with Scarifier only attached, 4,000 lbs.

"Panama Giant" with Steering device and Scarifier attached, 4,500 lbs.

Write Today for Our Complete Catalog of "PANAMA" Road Machinery.

THE F.B.ZIEG MANUFACTURING CO.

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Blawforms for Building Roads

Blaw Steel Forms reduce costs over half on your Sidewalk, Curb, Curb and Gutter and Road work. Being practically indestructible they can be used repeatedly for years.

Write for the two Blaw Books "More Profits for the Contractor" and Catalog 65-H—They're yours—Gratis

BLAW STEEL CONSTRUCTION CO.

Dept. H.

PITTSBURGH, PA.

Steel Forms for Every Type of Concrete Construction



KAHN CURB BARS

Straight or Curved Bars
Unit of Plate and Anchorage
Substantial Steel Protection
Rigid, Positive Anchorage
No Splitting of Concrete
Easy to Handle and Install

The scientific, practical, efficient and economical protection for edges of concrete curbs, columns, walls, entrance posts, platforms.

Write for Highway Pamphlet, describing Curb Bars and also Armor Plates.

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PERFECT WOOD-BLOCK PAVING

Long wear and satisfactory service are only possible with wood-block paving when it has been creosoted with the right oil. The service record of Reilly Improved Creosote Oil as a paving block preservative has established its reputation with municipal engineers throughout the country. This known service efficiency has led conservative engineers to specify Reilly Improved Creosote Oil for this work. Write for the FREE handbook.

Republic Creosoting Co., Indianapolis, Ind.

Plants: Mobile, Indianapolis, Minneapolis



"High Quality Materials for High Quality Work"

Bituminous Materials for every purpose

THE PIONEER ASPHALT CO.

LAWRENCEVILLE, ILL.

Buy
A **Russell**
Famous "The Stamp Of Quality"



For Maintaining Roads.

Extremely powerful yet simple and of light draft. Built for four horses but can be used with two where the work isn't too heavy. Has all the adjustments of our larger machines. Plow-steel blade 6 ft. long and reversible. Removable cutting edge of extra quality. 80 Page Catalog Free.

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Minneapolis, Minn.

GLUTRIN

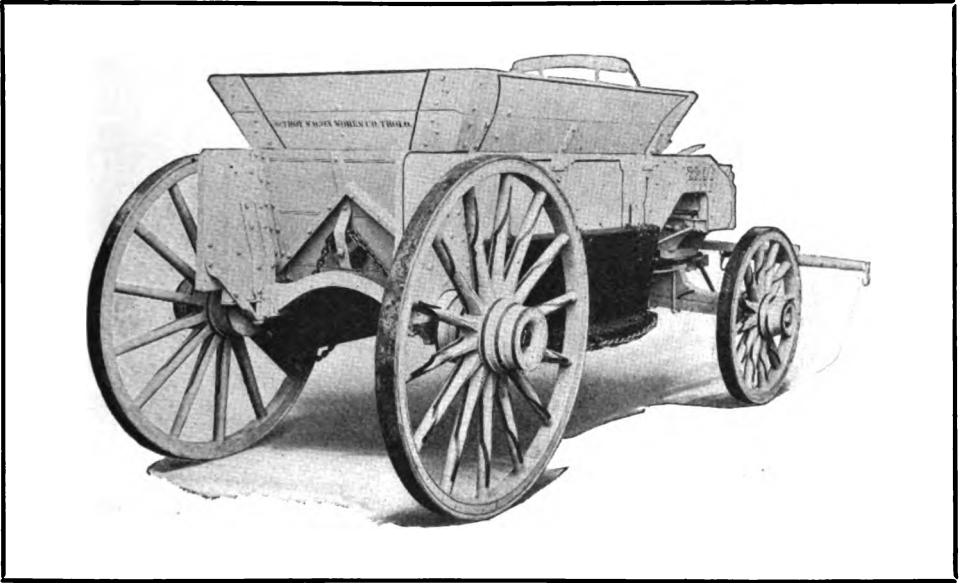
Liquid Road Binder

Not an oil nor a bitumen.

Write for illustrated booklet.

Robeson Process Co.

18 E. 41st St., New York City



**The City of Indianapolis
bought the Big Red Wagons in 1914
and they bought more in 1915—**

Why the Second Purchase?

THE ANSWER IS

“Absolutely Satisfactory Service”

Every city that ever buys the Ajax comes back to us when needing more wagons. Not on account of price—the Ajax is so extra good, it has to cost a little more. But who will question the fact that satisfactory service *is* worth more?

What's your hauling problem?—there's a Troy that's built just for it. Write for catalog 2 A C.

The Troy Wagon Works Company
Troy, Miami County, Ohio

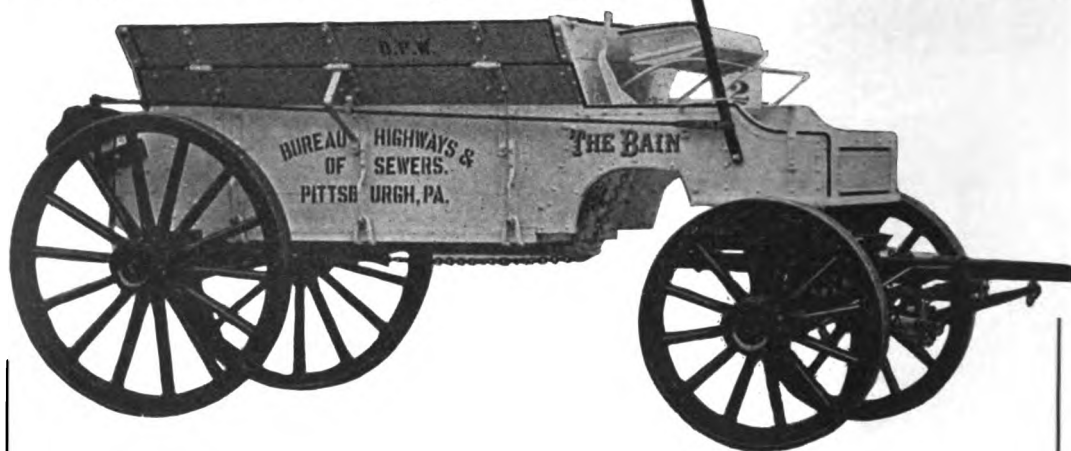
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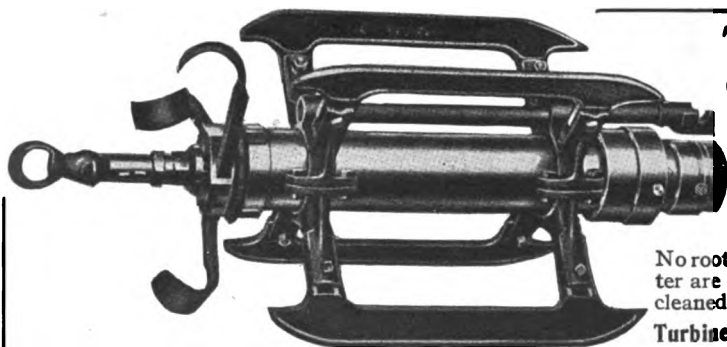
Bought Bain Dump Wagons for Five Years



The City of Pittsburgh, Pa., just bought a lot of **Bain Dump Wagons** for its Bureau of Highways and Sewers. This is the *fifth consecutive year* that we have furnished Dump Wagons to that Department, a most flattering endorsement for **The Bain**.

If you are going to buy Dump Wagons for your City, give us an opportunity to bid on your specifications.

THE BAIN WAGON CO., Main and Pearl Sts., KENOSHA, WIS.



Machines Sold, Leased or Contracts Taken

The Turbine Cleans Sewers— Large and Small

The Turbine can be adjusted for different size sewers from 6 to 30 inches. It cleans them, scrubs them and disinfects them.

No roots, sand and decomposed matter are left in the sewers after being cleaned by The Turbine.

Turbine Sewer Machine Renovating Co.
199 11th St., Milwaukee, Wis.

Heenan Destroyers

Sanitary and Economical Disposal of City Refuse by most advanced
European Method

The Destructor Co., 111 Broadway, New York

Controlling all U. S. Patents and Rights of
Heenan & Froude and Meldrum Bros., Limited

FOR
RESIDENTIAL SECTIONS
SPECIFY

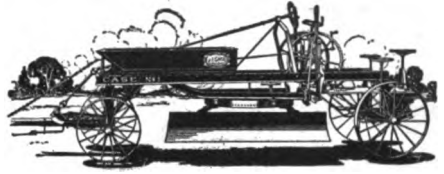
TASSCOIL

The Perfect Dust Layer

**STAINLESS
ODORLESS**

Write for Handsome Booklet

THE ALDEN SPEARE'S SONS CO.
CAMBRIDGE "C," BOSTON, MASS.



Case No. 1 Grader

GOOD ROADS

CASE Road Machinery is a short cut to Good Roads. There are many excellent features built into them that contractors like. These features make possible bigger profits. Besides that the name CASE stands for honest construction. They are built to last.

For instance, in CASE Graders the steering gear attachment permits two graders to operate one on each side of the road or in tandem. The extension hitch allows the grader to work in the ditch, while the tractor runs on the crown of the road. The blade locks at two points. All adjustments are within easy reach of the operator.

These features and many more are revealed in the CASE Road Building Machinery Catalog. It will be sent to you free if you request.

J. I. Case T. M. Co., Inc.

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DUSTOLINE FOR ROADS

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Phone: 1769 Haymarket

THE DUSTOLINE FOR ROADS CO.
SUMMIT, N. J.

Galion Ideal Cast Iron Flat Top Pipe

Built especially for sidewalk crossings and street surface drainage

Made from Pure Pig Iron, this pipe possesses great strength and durability—the ideal pipe for permanent work:

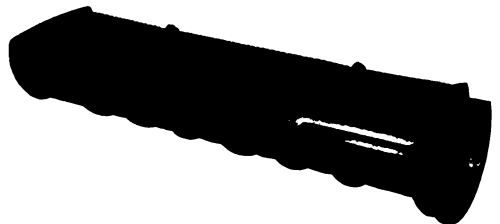
The smooth, round bottom of this pipe permits easy flow of water, prevents it from getting clogged and makes it easy to clean.

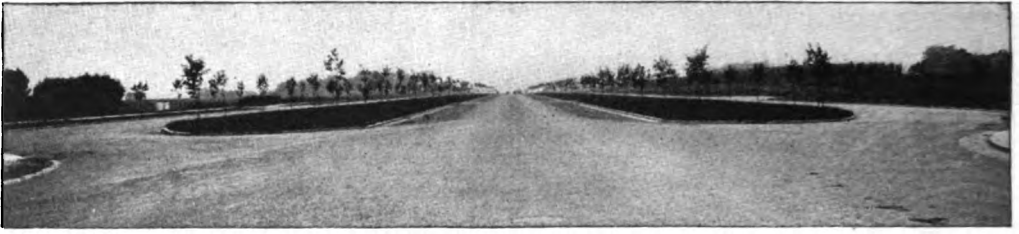
We also make Galion Ideal Pipe in the regular full round style, in sizes from 8" to 72" diameter.

When greatest economy and service at lowest cost are considered, Galion Ideal Cast Iron Pipe is unexcelled.

Write for complete information and quotations.

The GALION IRON WORKS & MFG. CO. 111 E. Main St. Galion, Ohio





NORTHEAST BOULEVARD, PHILADELPHIA

ATLANTIC ASPHALT

Refined from High-Grade Mexican Crude

Absolutely Uniform in Quality

Highest Percentage of Bitumen

Highly Cohesive and Adhesive

High Ductility—Not Affected by Changes in Temperature

Entirely Free from Soluble Salts—Permanently WATERPROOF

**THE IDEAL MATERIAL FOR
ROAD CONSTRUCTION**

Atlantic Paving Asphalt

(For Hot Mixing Method)

Atlantic Penetration Asphalt

(For Penetration Method)

Atlantic N. C. B. Asphalt

(For Surface Treatment—Applied Cold)

Atlantic Asphalt Road Oil

(A good investment as a dust layer, a waterproof covering for the road surface and as a road preserver)

Delivered in Tank-cars, Drums or Barrels. Prompt shipments are assured. Our Engineering Staff is always ready to make specific recommendations regarding your road problems. Your correspondence is solicited.

THE ATLANTIC REFINING COMPANY

Philadelphia

*Sustaining members of the
American Highway Association*

Pittsburgh

Real Asphalt Wagons

More than twenty-five years ago the Watson special asphalt wagon was worked out. That long ago we knew no ordinary grading wagon lined with steel and asbestos would stand up under asphalt service.

The customers whose names are given on this page own many thousands of Watson *Asphalt* wagons. The list is only a partial one—just a few taken at random—and yet it reads almost like a directory of the leading asphalt pavers of America. Read it and see.

The Barber Asphalt Company has been with us for twenty-five years. The Warren Brothers Bitulithic Company since they began business—and so it goes.

The list speaks for itself. Why do you suppose these people pay more for the Watson Asphalt Wagon?

SOME USERS OF THE WATSON ASPHALT WAGON:

Andrews Asphalt Paving Co. Hamilton, O.
 Barber Asphalt Paving Co. Philadelphia & all branches
 Warner-Quinlan Asphalt Co. Syracuse, N. Y.
 Warren Brothers Co. Boston, Mass.
 Cleveland Trinidad Paving Co. Cleveland, O.
 Fairchild-Gilmore-Wilton Co. Los Angeles, Cal.
 Henry Bickel Co. Louisville, Ky.
 L. R. Figg Co. Louisville, Ky.
 Southern Asphalt Co. Birmingham, Ala.
 West Construction Co. Chattanooga, Tenn.
 Mexican Asphalt Paving Co. Mexico City
 P. J. Moran Salt Lake City, Utah
 Federico Boillat Buenos Ayres, So. Am.
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 City of Buenos Ayres South America
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 City of St. Paul Minn.
 City of Milwaukee Asphalt Repair Plant.
 Badger Construction Co. Milwaukee, Wis.
 Uvalde Asphalt Co. Brooklyn, N. Y.
 Brooklyn Alcatraz Co. Brooklyn, N. Y.
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 Warren Construction Co. Portland, Ore.
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 City of New Orleans Louisiana
 City of Winnipeg Canada
 Atlantic Bitulithic Co. Richmond, Va.
 Southern Bitulithic Co. Nashville, Tenn.
 Dominion Bitulithic Co. Winnipeg, Canada
 Central Bitulithic Co. Detroit, Mich.
 Texas Bitulithic Co. Dallas, Texas
 Union Paving Co. Philadelphia, Pa.
 The Bitulithic Co., Limited. Toronto and Montreal
 Thomas Harrington & Sons Newark, N. J.
 Newton Paving Co. Trenton, N. J.
 Union Paving Co. Schenectady, N. Y.
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 Whitmore, Rauber & Vicinus Rochester, N. Y.
 Foley & Gleason London, Ont.
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 Hugh Nawn Construction Co. Boston, Mass.
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The World's Largest Builders of Dumping Wagons

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Branch { 256 Broadway, New York, N. Y.
 Offices: { 1102 Farmers Bank Bldg., Pittsburgh, Pa.

7 Clay St., Baltimore, Md.
 604 Witherspoon Bldg., Philadelphia, Pa.

Murphy's 3-Year-old Idea

William Murphy, General Contractor, Lestershire, N. Y., stopped his work on June 25th long enough to write us these words:

"I have been using your steel forms for the past three years and



To me the Hotchkiss Steel Form is the greatest proposition in the world

"I have just finished several thousand feet of 24 inch curb. I used only 100 feet of these forms easily completing 300 running feet of a curb each day with six men, bringing the labor expense outside of excavation, less than 5 cents per linear foot."

The above is just another expression of satisfaction from a user of Hotchkiss Forms. You, too, will be as enthusiastic as Murphy after Hotchkiss has saved you money.

WRITE FOR FURTHER INFORMATION

Hotchkiss Lock Metal Form Co.

Department A. C.
BINGHAMTON, N. Y.

Own a Stone Crusher Yourself

Be independent of railroad and quarry companies for crushed stone supply. Your road work may be too important to be held up on account of some delay. Be prepared. Have a stone crusher all your own.



The Reliance Portable Crusher

reduces the cost of material—saves delays—cuts down the cost of getting material on the job—does as good work as a stationary crushing outfit.

The entire Reliance line of road equipment has been proven time and again to be superior in workmanship and material. *Write for our catalogue.*

Universal Road Machinery Co. Kingston, N. Y.

Branch Offices: Boston, Rochester, Harrisburg. Agencies in 14 principal cities.

Keep on building concrete curbs but build them Permanent

Specify Wainwright Galvanized Steel Corner Bar

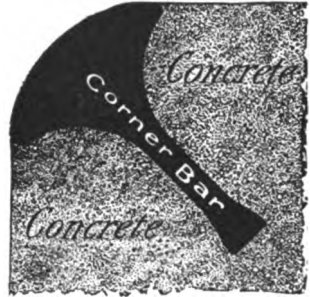
It's a waste of money to build fine concrete curbs and then put in an inferior curb bar to protect the edges from chipping.

What you need is a curb bar that is built with a solid head and solid steel anchor. It should also be dovetail anchored—not merely anchored at intervals—but every inch of the way. It should hold its place so firmly that frost can't dislodge it.

When you insist upon a corner curb bar with all these important features, you will specify WAINWRIGHT exclusively.

Over 8,000,000 feet in use today—all of it giving excellent service.

Write for Booklet No 1.



"WAINWRIGHT PATENTS"

March 9, 1897 November 22, 1898 May 5, 1903
March 26, 1907 August 26, 1907 August 2, 1910

Steel Protected Concrete Co.

Real Estate Trust Bldg.
Philadelphia, Pa.

"I clean
more
territory
with the



Baker's Dustless Pick-up Sweeper

for less than half of what it
cost the city under the old
style of street sweeping.

It sweeps perfectly clean and picks
up everything that is in its path."

From a letter from E. G. WADE, Supt. of Streets,
Alton, Ill.

Write us for details about this sweeper and for data
on how it will save you money, time and trouble.
Catalog Free.

The Baker Mfg. Co. 563 Stanford Avenue
SPRINGFIELD, ILL.

Or Baker-Barron, Inc.

225 West Broadway

New York

Wastes on Repair Jobs—Saved "TARCO"



Combination
Heating
Kettle and
Pouring Pot

The TARCO Com-
bination holds 10
gallons. It's small
but just right for a
small job.

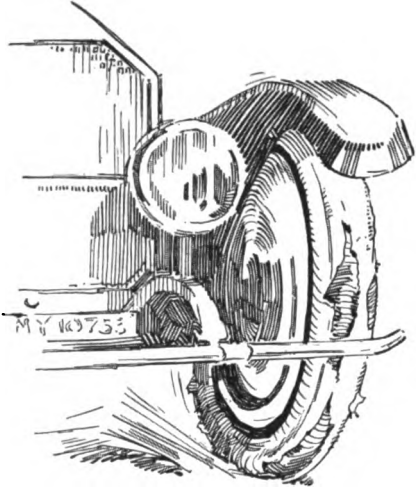
This combination can be used prac-
tically on any small job and is suitable
for heating and pouring all kinds of
bituminous road preparations. It
takes less men, less time and less
money to operate.

Let us send you information about
how it is built. Write now.

THE TARRANT MFG. CO.

12 Maple Ave.

Saratoga Springs, N.Y.



Think About Pavements as You Think About Automobile Tires

The tire is guaranteed for 3500 miles.

The pavement is guaranteed for five years.

If the tire yields 3600 miles the maker has discharged his obligation.

If the pavement lasts six years the contractor has discharged his obligation—BUT

In neither case has real service been rendered.

TRINIDAD LAKE ASPHALT

will enable the contractor to protect his guarantee and to render modern service to the community by postponing pavement repairs for the longest possible time beyond the guarantee period.

Isn't the longest lived pavement the one to insist upon?

Twenty-year Trinidad pavements in thirty cities are described in "Evidence." Copies await your request.

The] Barber Asphalt Paving Company
PHILADELPHIA, PA.

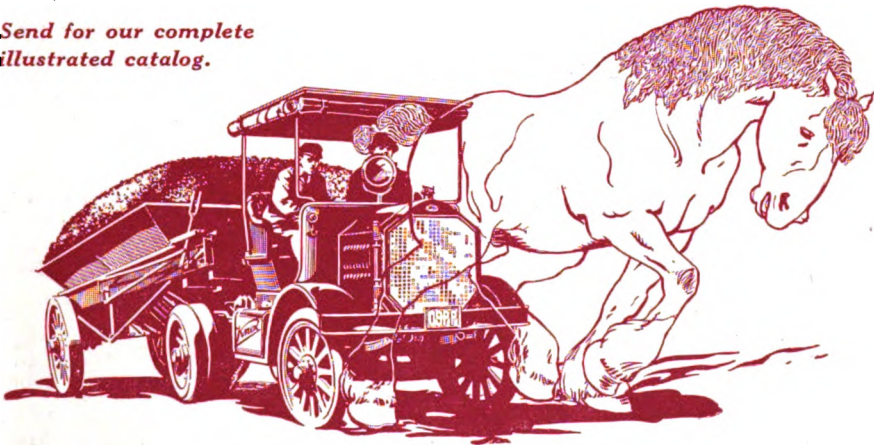
The Great Gasoline Horse

The Knox Tractor has been called "the great gasoline horse" because it *hauls* any kind of load (of 5 tons and upwards) in any kind of trailer.

Heavy loads cannot economically be *carried* on rubber tires. The principle is wrong. But they can be *hauled* economically by the Knox Tractor, which allows from 60% to 100% of the paying load to roll on durable steel tires.

One concern (name on request) who investigated and purchased Knox Tractors cut their hauling expenses over \$2,000.00 a month.

*Send for our complete
illustrated catalog.*



Knox

KNOX MOTORS ASSOCIATES
Springfield, Mass.

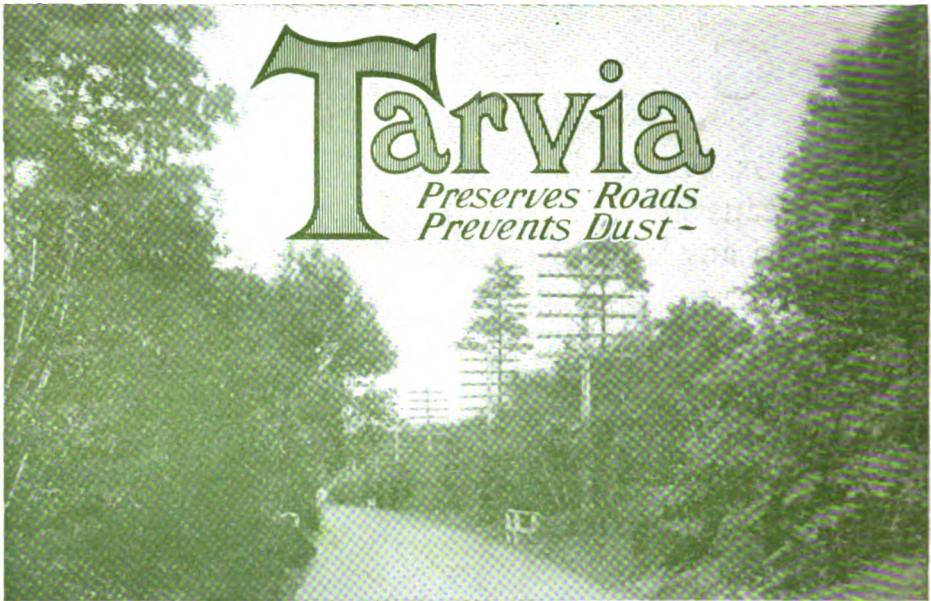
New York
1872 Broadway

Chicago
1621 Michigan Ave.

Boston
825 Tremont Bldg.

Philadelphia
604 Abbott Bldg.

Kansas City
1835 McGee Street



*Mass. State Highway—South Walpole, Mass.
Treated with Tarvia.*

After Six Years—

The Massachusetts Highway Commission in 1909 tried various tentative methods of constructing automobile-proof highways.

One of them was a two-inch macadam top thoroughly cemented together with "Tarvia X."

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LANDSCAPE ARCHITECTURE

Publication Office
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The American City

A Monthly Review of Municipal Problems and Civic Betterment

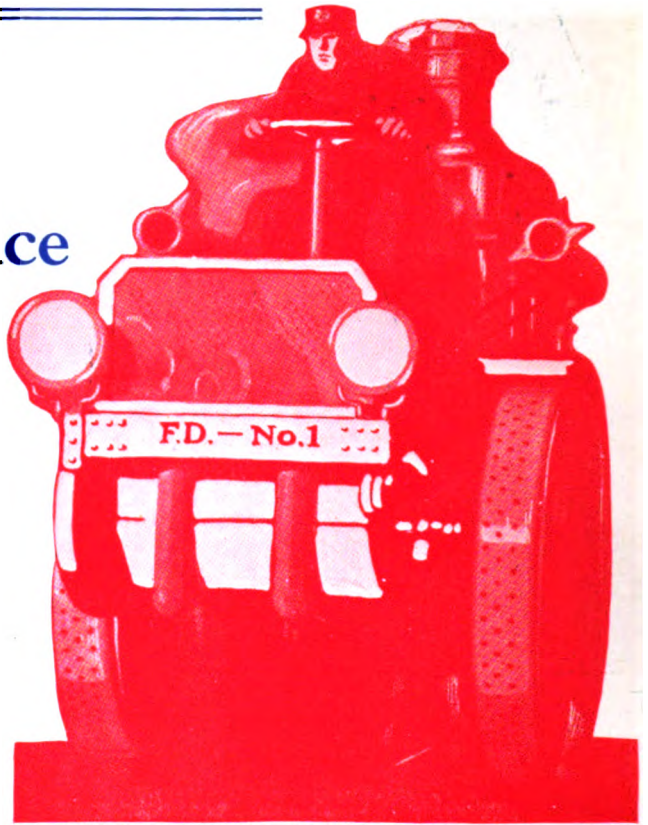


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CINCINNATI, U. S. A.

HAROLD S. BUTTENHEIM, Editor

M. V. FULLER, Associate Editor

THE AMERICAN CITY

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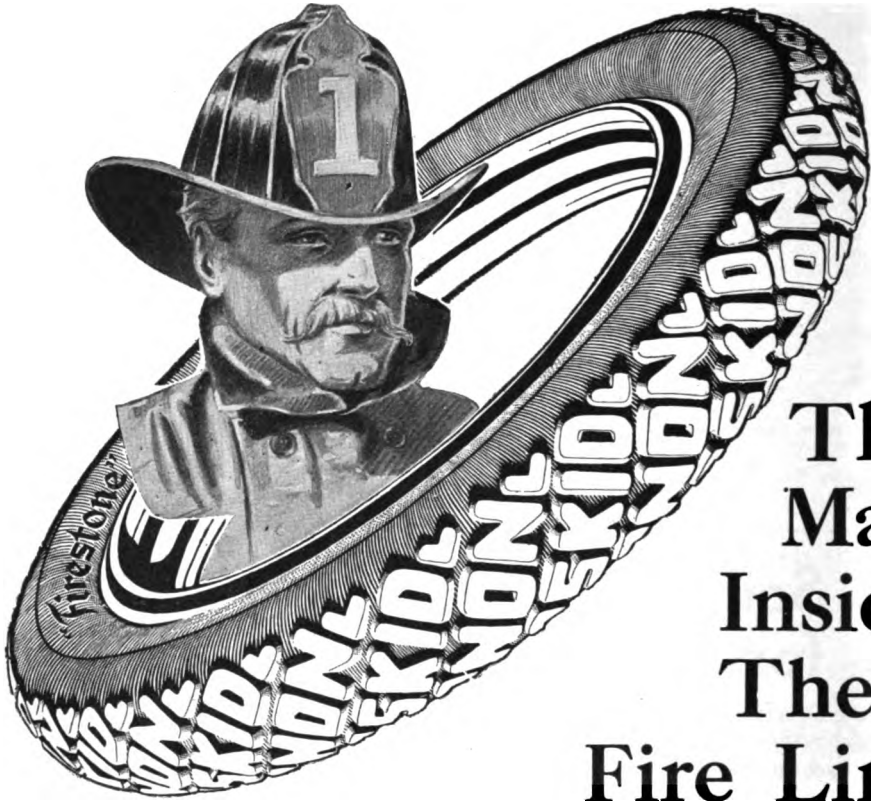
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BRICK PAVING

MOUNDSVILLE, W. VA.

Sealed bids will be received at the office of the Clerk of the City of Moundsville, Marshall County, West Virginia, until 4 o'clock P. M. sharp, on the 23d day of October, 1915, for paving with vitrified paving brick or block, and curbing with cement curb, the following streets or parts of streets: Seventh Street, from Lafayette Avenue to Western Avenue, and Western Avenue from Seventh Street north to the end of the present brick pavement.

Bids will be received for paving with concrete base, gravel base, cement filler, sand filler and tarvia filler.

Plans and specifications can be seen at the office of the City Engineer (Alex Purdy).

Council reserves the right to reject any or all bids for either curb or paving or for the entire improvement.

Ordered by the Council of the City of Moundsville, Sept. 27th, 1915. Given under my hand this 28th day of September, 1915.

O. B. BONAR,

Clerk of the City of Moundsville, W. Va.

WATER MAIN

GALVESTON, TEX.

Sealed proposals will be received by the Board of Commissioners of the City of Galveston, at the office of the City Secretary, until 12 o'clock M. Thursday, Oct. 14, 1915, and opened at the first regular or special City Commissioners' meeting thereafter, for doing all the work necessary for the complete installation of a submerged 30-inch cast iron water main, ready for use, across a part of Galveston Bay near the causeway, being approximately 3600 lineal feet in length.

The city will furnish all pipe, fittings and specials required for the work and deliver same to the contractor f. o. b. cars at Galveston, Tex., the contractor to furnish all other material, labor, tools and appliances necessary for the complete construction of the main, as provided in specifications, the same to be included in the unit price bid for the work complete.

Each proposal must be submitted in duplicate and accompanied by a certified check payable to the order of the City Secretary in the sum of 5 per cent of the amount of bid or the same will not be considered. Said certified check and the money payable thereon to be forfeited to the city as ascertained and liquidated damages, in the event an award is made and the contract and bond is not promptly executed as required.

All work to be done in accordance with and agreeable to plans, details and specifications therefor prepared by the city engineer, copies of which may be obtained from his office in the City Hall, Galveston, Texas.

Bond in the sum of 30 per cent of the total contract price will be required for the faithful performance of the

work; sureties thereon must be satisfactory to the Board of City Commissioners.

Payments to be made as provided in specifications.

Bidders will not be permitted to modify or withdraw their proposals after same have been submitted for consideration of the Board of Commissioners, and the right is reserved to waive technical defects if in the interest of the city.

The Board of Commissioners reserve the right to reject any and all bids, or to accept the proposal deemed by them to be for the best interest of the city.

M. E. SHAY,

Commissioner of Water Works and Sewerage.

A. T. DICKEY,

City Engineer.

JOHN D. KELLEY,

City Secretary.

PAVING

BEAUMONT, TEX.

Sealed proposals for paving certain streets in the City of Beaumont, Tex., will be received by the City Council up to 10 o'clock A. M. of the 19th day of October, 1915, for all or any portion of the following work:

Approximately 90,000 square yards of paving on concrete foundation, including all necessary curb and gutter, with vitrified brick, asphalt, rock asphalt, bitulithic, creosoted wood blocks or any material, as may be determined by the City Council.

A certified check on some Beaumont bank in the sum of \$1,000, made payable to Emmett A. Fletcher, Mayor, will be required to accompany each bid. For specifications, streets to be paved, or any other information apply to C. L. Scherer, City Engineer.

Bids to be considered must be addressed to J. G. Sutton, City Secretary, and marked "Bid for Paving."

The city reserves the right to accept or reject any or all bids.

J. G. SUTTON,

City Secretary, Beaumont, Tex.

C. L. SCHERER,

City Engineer.

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Then here is another significant fact. 78 cities in 1914 already using Goodyears, specified Goodyears on new apparatus purchased.

This is the best proof we know of that Goodyear tires excel. We suggest to you, when next in the market for fire truck tires, that you remember the name and reputation of Goodyear.



The Goodyear Cushion Fire Truck Tire was designed for high speed Fire Department service. For speeds not to exceed 35 miles per hour it is without a peer. This tire is the best for heaviest apparatus.

The Goodyear Fortified Tire with the All-Weather Tread is the ideal extra-strength pneumatic tire for lighter equipment.

Has all the Goodyear features that insure security and resist rim-cutting, skidding, tread separation and blowouts.

Learn more of the quality, the service, the safety, the economy, by which Goodyear Fire Truck Tires have won their way in the country's foremost fire departments. Write today for book, "Getting to the Fire." Address Desk 138.

The Goodyear Tire & Rubber Co., Akron, O.

Makers of Goodyear Fortified Automobile Tires
We Make Demountable, Block, Cushion, Pneumatic and Other Types of Truck Tires (2647)

The Fire Hose You Will Eventually Buy

Would you throw away your automobile casing because your inner tube cracked or punctured, or your inner tube when the casing wears out?

Certainly not—you repair or replace them, and that is just what you can do with "Two-Part" Fire Hose.



Old Hose Made Practically Good as New

If your old hose leaks and cotton jacket is in fairly good condition—can be made serviceable and guaranteed by using our Special Re-line Tube. Write for samples and prices.

Purchased by More Than Fifty Cities in Ninety Days

Official Report and Record of "Two-Part" Fire Hose in Chicago Fire Department:

From March 9th to July 15th, 1915:

Performed duty at twenty-one fires
Time worked—22 hours, 10 minutes
Pressure—60 to 250 lbs.
Hose now in first-class condition

City officials quickly see the common sense, practicability and economy in "Two-Part" Fire Hose—the Fire Hose you will eventually buy.

Write or Telegraph—Our Expense—for Samples and Prices.

CHICAGO FIRE HOSE CO.
53 West Jackson Blvd., Chicago

BOYD AERIAL TRUCK

The Quickest & Best Hoisting Device on the Market

Combining *Power, Spring* and Hand Hoist. Can be operated with ease by one man, and extended to full height of 85 ft. in one minute.

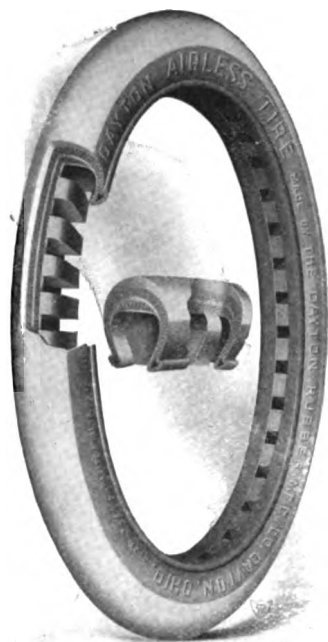
Note the Rigidity of the Ladder



Manufactured by
JAMES BOYD & BRO., Inc.
"Builders of the Best"
25th and Wharton Streets
Philadelphia, Pa.



DAYTON AIRLESS TIRES



are the only tires which fulfill all the requirements for motor fire service. They cannot puncture — cannot blow out — safe at any speed — do not jolt or jar the mechanism of your apparatus, thereby eliminating all repair bills — always ready for the hardest kind of service.

Insist on Dayton Airless.

THE DAYTON RUBBER MFG. CO.
1013 Klier St. Dayton, Ohio

The far-reaching tones of New Departure Fire Bells

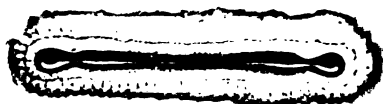
rise clear and distinct
above the din of traffic

"FIRE!" is the first thought of all who hear them. ¶ The public never stop to see what's coming. ¶ They know. ¶ They get out of the way. ¶ The road is cleared, instantly, instinctively. ¶ No other alarm will do this. ¶ New Departure Fire Bells are used on apparatus in the largest cities, in the smallest towns.

Send for our new
complete catalog

THE NEW DEPARTURE MFG. CO.
BRISTOL, CONN., U. S. A.

Bi-Lateral Fire Hose



End View of Bi-Lateral Hose Flattened

Will not crack

There is nearly two and a half times the usual amount of service in Bi-Lateral Fire Hose. Judge for yourself:

The rubber lining is left free from its jacket in Bi-Lateral Hose where congestion takes place in hose of old construction. By allowing the rubber lining here its freedom, when the hose is flattened, the Bi-Lateral tube takes two curves at the points of fold, which relieves the compression (see illustration) whether the hose is flat or under pressure.

It is the most pliable hose made and can be flattened without injury.

Bi-Lateral Fire Hose Co.
326 W. Madison St. Chicago, Ill.

Empire Rubber & Tire Co.

Manufacturers of
HIGHEST GRADE FIRE HOSE



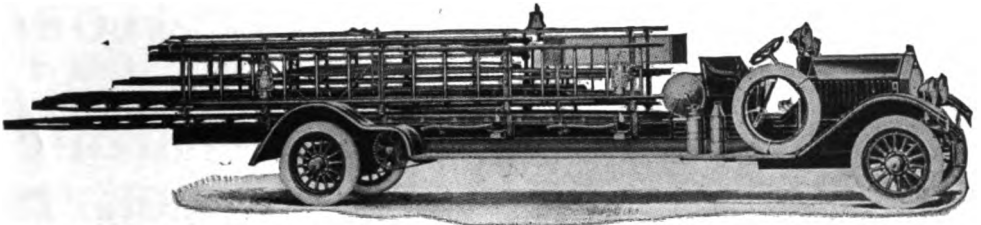
also Garden Hose and a
complete line of mechanical
rubber goods.

Factories, TRENTON, N. J.

FIRE DEPARTMENT SUPPLIES

Larkin Shut-Off Nozzles, Automatic Relief Valves, Play Pipes, Siamese Connections, Buckley Hydraulic Expanders, Supplies of every description for Fire Departments.

LARKIN MANUFACTURING CO.
DAYTON, OHIO



A High Class Type of City Service Truck

Before purchasing your new service truck, let us have your name and address. We will send you some important reasons why South Bend Double Duty apparatus stands for

Quality and Service

We manufacture all kinds of motor-driven apparatus for municipal use—fire trucks, police patrols, ambulances or service trucks of the highest type of construction.

South Bend Motor Car Works, South Bend Ind.



Republic Quality Hose

FIRE HOSE

Cotton, Rubber Lined Rubber Chemical
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STREET WASHING HOSE

VACUUM HOSE

Airoduct Marro Republic

MOLDED GARDEN AND WATER HOSE

In Lengths up to 1000 Feet

RUBBER VALVES

THE REPUBLIC RUBBER COMPANY

YOUNGSTOWN, OHIO, U. S. A.

THE GAMEWELL FIRE ALARM TELEGRAPH CO.



"Registered U. S. Patent Office"
Manufacturers of
Fire Alarm and Police Signal
TELEGRAPHS
for
Municipalities and Private
Parties

The Gamewell system of to-day is the outcome of the combined inventive genius and mechanical skill of many whose valuable services the company has been able to secure during the past fifty-seven years, in pursuance of its policy of meeting at any cost the requirements of the varied conditions existing in different localities.

Correspondence Solicited.

General Office and Works:
Newton Upper Falls, Mass.

A Fire Hose

of unusually careful manufacture
Wax and Para Gum Treated

The lining is of ~~two~~ Para Gum, ~~which~~ made,
four calendered, smooth bore or lap-jointed.

Circular balance woven,
each strand of cotton is
treated to a bath of melted
Wax and Para Gum, then
cabled and woven into the
jackets.

Absolutely waterproof,
making the ideal hose for
fire departments.

Treatment lubricates and
solidifies the strands of cot-
ton, assuring long wear.

Made in all sizes from
1 to 6 inches inside diameter

Fabric Fire Hose Co.

Corner Duane and Church Streets, New York

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Sole Manufacturers

R.D. Wood & Co.

PHILADELPHIA, U. S. A.

ENGINEERS
IRON FOUNDERS
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Pipe Hydrants, Valves,
Gas Producers, Pumps,
Gas Work Materials

FIRE HYDRANTS

Frost-Proof
Simple-Efficient

All parts removable with-
out digging up hydrant.
Special device prevents
street from being flooded
should stand pipe be bro-
ken. Minimum ex-
pense to install
and main-
tain.



LUDLOW
GATE VALVES

FOR
Water, Steam
Gas, Oil, Hydraulic
or Electric Operated
All styles, any size, all pressures

-- THE --
Ludlow Valve Mfg. Co.

TROY, N. Y.

Branch Offices

New York Chicago Boston
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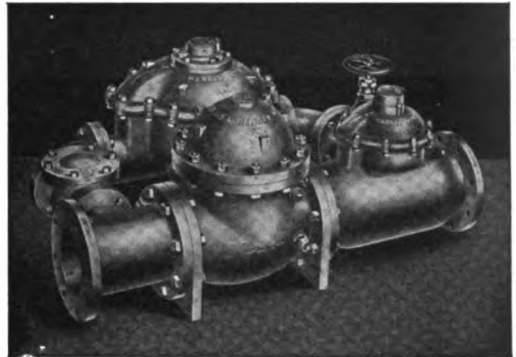


Now made in 100 different models and sizes. The new Clark Meter Coupling Yoke and Clark Riser Coupling are great savers. The Clark Meter Testers are the recognized standards of the world. Made in 9 models regularly and any special construction to order.

Send for Catalogue "N."



H. W. CLARK CO.
Everything for the Water-Works
General Offices and Factory
130 South Seventeenth Street
Mattoon, Illinois, U. S. A.
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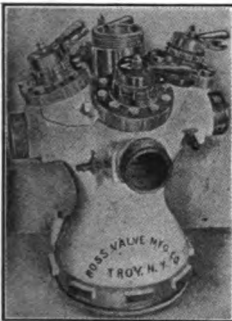


STOP WHOLESALE LOSSES!
USE THE HERSEY DETECTOR METER
ON FIRE SERVICES

THIS METER HAS BEEN ACCEPTED WITHOUT RESTRICTION BY INSURANCE COMPANIES AND WATER WORKS IN MORE THAN 500 CITIES AND TOWNS IN THE UNITED STATES AND CANADA FOR USE ON OVER 3,000 FIRE SERVICES

PROTECTING OVER \$1,000,000,000 WORTH OF PROPERTY
HERSEY MANUFACTURING CO.
MAIN OFFICE AND WORKS, SO. BOSTON, MASS.
BOSTON, NEW YORK, PHILADELPHIA
BUFFALO, CHICAGO, COLUMBUS, O., ATLANTA,
SAN FRANCISCO, LOS ANGELES, PORTLAND, ORE.

ALL KINDS OF METERS FOR ALL KINDS OF SERVICES



High Pressure Fire Specialties, Portable Hydrant Heads

Our Regulating Valves control the high pressure on the Fire Service Systems of

New York
Brooklyn
Baltimore
Jacksonville
San Francisco
Cincinnati

Manufacturers of Water Works Specialties and Feed Water Filters.

ROSS VALVE MFG. CO., Troy, N.Y.

The IOWA Fire Hydrant

(The Latest Corey Type)

Newest and most improved design of fire hydrant. Write for circular.

Also manufacture Gate Valves, Valve Boxes

Anderson & White

Sole Eastern Agents, Iowa Valve Co.

2 Wall St.,
New York City



SLUICE GATES, CHECK VALVES, AIR VALVES, INDICATOR POSTS, ETC.

GATE VALVES

EDDY

FIRE HYDRANTS

Hydraulically and Electrically Operated Valves and Sluice Gates. Valves Designed For All Kinds of Service.

EDDY VALVE COMPANY, WATERFORD, N. Y.

New York

Chicago

Boston

San Francisco

Philadelphia

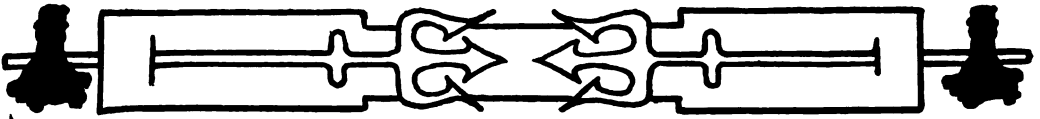
Water Purification

Municipal and Industrial Purposes

Re-filtration Systems for Natatoriums

NORWOOD ENGINEERING COMPANY

FLORENCE, MASS.



Selling Water By Guess

It's all right to guess about **some things**. Nobody will object to your trying to guess if it will be **clear** or **rainy** tomorrow or whether your next baby will be a **boy** or a **girl**.

But some things should naturally lie outside the realm of guess work and selling water is one thing which **should not be left to chance**.

Could there be anything less fair or more absurd than charging one householder fifty dollars a year for his supply of water and another exactly the same amount when the second man is using only half the quantity used or wasted by the first man? Yet this is exactly the sort of abuse which results from the flat rate system.

If your system is fully metered, you are to be congratulated. If your services are unmetered or only partly metered, don't you think there is room for improvement?

NEPTUNE METER COMPANY

90 WEST STREET NEW YORK

CHICAGO · BOSTON · SAN FRANCISCO

ATLANTA · LOS ANGELES · PORTLAND · SEATTLE

CINCINNATI



Is Absurd and Unfair

Perhaps you will say, after reading the preceding page, "We know that water meters as a general proposition are a good thing, but which meter will give us the best service? Will we be safe in buying where we can get the most meters for the least money? In other words, is every meter a real meter?"

The best answer to this question is shown in the present unhappy frame of mind of some water works officials who in the past have gone ahead on the theory that economy in meter buying meant low first cost.

If there is one particular line in the world when the **best** is the cheapest in the long run, it is in the water meter line—and that is why Trident Meters continue to hold first place in the hearts of all users in spite of their higher first cost.

Our booklets on water waste, and conservation of water supply may help you to solve some of your problems. They'll be sent free if you'll supply us with the one thing necessary—**your address.**

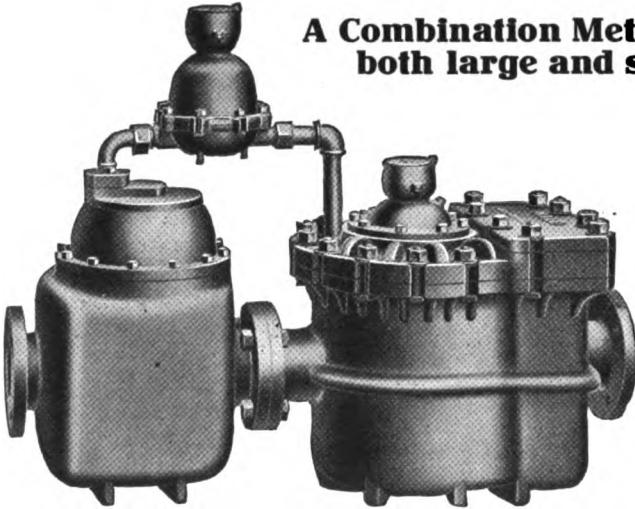
NEPTUNE METER COMPANY

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THE NILO COMPOUND METER

Meets the demands of water works officials—

**A Combination Meter for measuring
both large and small flows correctly**



The Nilo Compound meter is a combination of the Nilo meter, a high-duty meter of acknowledged accuracy, durability and capacity and the King Disk meter which is unexcelled in accuracy on all flows within its capacity, together with an automatic double differential vertical valve, guided and united by a central stem.

Detailed description of meters for all services and conditions on request.

UNION WATER METER COMPANY

Incorporated 1868

Worcester, Mass.

Makers of Worcester Steam Gongs, Water Pressure Regulators, Water Works Fittings

AMERICAN AND NEW NIAGARA WATER METERS

Their Construction:

Dirt and Sand Proof
Submerged Bearings
—
Reinforced Disc
—
Jewel Bearing
Intermediate Gears
—
Adjustment for Pressure
—
Only Seven Submerged
Working Parts
—
Self-Cleaning and
Sanitary
—
All Bronze Casings,
Part Bronze Casings,
or All Galv. Iron Casings



Meter Literature:

Write for bulletins on
the following subjects:
—
American and New
Niagara Water Meters
—
Facts and Figures about
Meters in Service
—
Advantages of Using
Water Meters
—
Model Water Meter
Specifications
—
Water Meter
Accessories
—
Prices

BUFFALO METER CO.

Established 1892

290 Terrace, Buffalo, N. Y.

TRADE **"LEADITE"** MARK
Registered U. S. Patent Office

FOR JOINTING CAST-IRON WATER MAINS

NO CAULKING REQUIRED

Melted and poured same as lead.

No large bell-holes to dig.

Trench pumping cost reduced to minimum.

1 lb. Leadite is equivalent to 4 lbs. lead.

Saves 50% to 65%.

Joints effective from yarn to face of bell.

Resists electrolysis and withstands vibration.

Big saving when going thru rock or bad ground.

Allows work to progress rapidly.

Saves time, money and labor.

Makes work easy on the men.

The up-to-date joint for bell and spigot pipe.

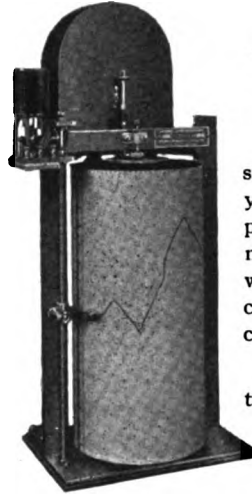
Used by water works all over the country.

Write for price and full information.

Send for the estimate card.

THE LEADITE COMPANY
100 S. BROAD ST., PHILADELPHIA, PA.

The Long Distance Hydro Chronograph



Measures Water Level Miles Away

This particular instrument placed in your office or power plant from one to five miles away from your water supply will record water levels accurately.

Let us give you details about it.

A Chronograph for Any Condition

We make 19 types from which you can select the one which meets your problem. Write us for our booklet on the various types.

The Hydro Mfg. Co., Bullitt Building
Philadelphia, Pa.



Buckeye Broadcast Fertilizer Sowers

Absolutely Guaranteed to Sow
Granulated Calcium Chloride

Ground Sheep Manure, Lime and all brands of Commercial Fertilizers. Send for Prices and Catalogue.

The American Seeding-Machine Co., Inc., Springfield, O.

BANISH THE BUGS! OUR Lightening **KILEM** Insecticide

Kills All Kinds of Insects, their Eggs and Larvae
Especially prepared for

HOSPITALS and PUBLIC BUILDINGS

Roaches, Bedbugs, Flies, Fleas, Lice, etc.

Instantly Exterminated—Prevents further Breeding

60c per gal. can. 50c per gal. in barrel lots

SAMPLE ON REQUEST

We also make disinfectants, floor-sweeping compounds, etc

HILL CHEMICAL PRODUCTS CO.

539 Real Estate Trust Building, PHILADELPHIA

Bound Volumes of THE AMERICAN CITY

A set of bound volumes of THE AMERICAN CITY makes a most valuable reference work for municipal offices, public libraries, etc., and we are in a position to supply all volumes from Volume I to Volume XII, inclusive. Our supply of the earlier volumes is very limited, but we are occasionally enabled to add to the supply by the purchase of back numbers which are offered to us and in this way have always been able to furnish complete sets to those who desire them. The prices of the volumes vary somewhat on account of the scarcity of some of the issues contained. We will be glad to quote terms on application.

THE AMERICAN CITY, 87 Nassau Street, NEW YORK CITY



A BADGER METER FOR EVERY SERVICE!

DISC METERS
TURBINE METERS
COMPOUND METERS

Write for specifications

Badger Meter Mfg. Co., Milwaukee, Wis.



The Ideal Roadway Box

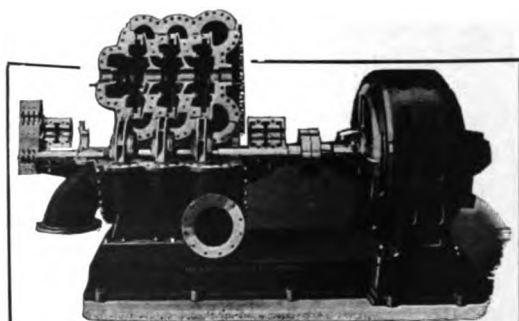
It is easily and quickly installed. Can be used in conjunction with or without brick or concrete underpinning.

By its sectional construction and adjustable top it is adaptable to any change in the street grade without the trouble and expense of digging up the street and resetting.

Write for descriptive matter and prices.

S. E. T. Valve and Hydrant Company

Hudson Terminal Bldg.
50 GEORGE ST., NEW YORK



Morris couples brains with experience

It takes brains to build pumps. It also takes long experience in using your brains to build the right kind of pumps.

Ever since the Civil War, way back in 1864, we have been constructing pumps for all kinds of work. You can safely put your pumping problems up to us. We can solve them.

Write for our 126-page catalogue. You may find some suggestions in it worth while learning.

MORRIS MACHINE WORKS

Baldwinsville, N. Y.

New York Office: 39 Cortlandt Street

217 Jefferson St., Chicago, Ill.

Charlotte, N. C.



TOWNSEND'S TRIPLEX

The Greatest Grass-Cutter on Earth
Cuts a Swath 86 Inches Wide

Drawn by one horse and operated by one man, the TRIPLEX MOWER will mow more lawn in a day than the best motor mower ever made, cut it better and at a fraction of the cost.

Drawn by one horse and operated by one man, it will mow more lawn in a day than any three other horse-drawn mowers with three horses and three men. (We guarantee this.)

Write for catalogue illustrating all types of Townsend Lawn Mowers, with list of users (FREE).

S. P. Townsend & Co., 21 Central Avenue
ORANGE, N. J.

Send for This Booklet

Contains lots of good information for the man who wants to reduce his power and light cost, as well as the gas engine operator who is interested in getting the most efficient results from his equipment.

Advantages of gas power:
Facts and Figures.
Bruce-Macbeth Engineering Service.
Producer Gas Plants.

How thousands of wasted horse power can be saved.
Marion Stinson Process.
Gas Engine Drive.
(A notice for the operating engineer.)

The Bruce-Macbeth Engine Co.
2137 Center St., N.W. Cleveland, O.

CONTENTS

FORD METER Testing Machine

The Ford Meter Testing Machine a necessity in all Water Departments.

Line comprises various capacities. Cut shows our No. 4A machine, which tests one 1" and three either $\frac{5}{8}$ " or $\frac{3}{4}$ " meters at the same time.

Ford Meter Box Co.
Wabash, Ind.

BOARD OF WATER COMMISSIONERS
T. ALLEN BULLOCK, PRES.
ROBERT WILSON
WILLIAM G. COE

ENGINEERING & OPERATING DEPT.
OFFICE OF THE CHIEF ENGINEER

Here is a Sample Testimonial Letter:

CHIEF ENGINEER
EDGAR M. HOPKINS, JR.
WILMINGTON
MARLOW BRITTS

WATER DEPARTMENT



WILMINGTON, DEL.

Sept. 1, 1915.

Ford Meter Box Co.,

Wabash, Ind.

Attention Mr. McNamee.

Dear Sir:

Replying to your letter of August 19th we are pleased to state that we have requested Mr. McNamee to furnish us with a photograph of our Ford Meter Testing Machine, to be used in connection with our next Annual Report.

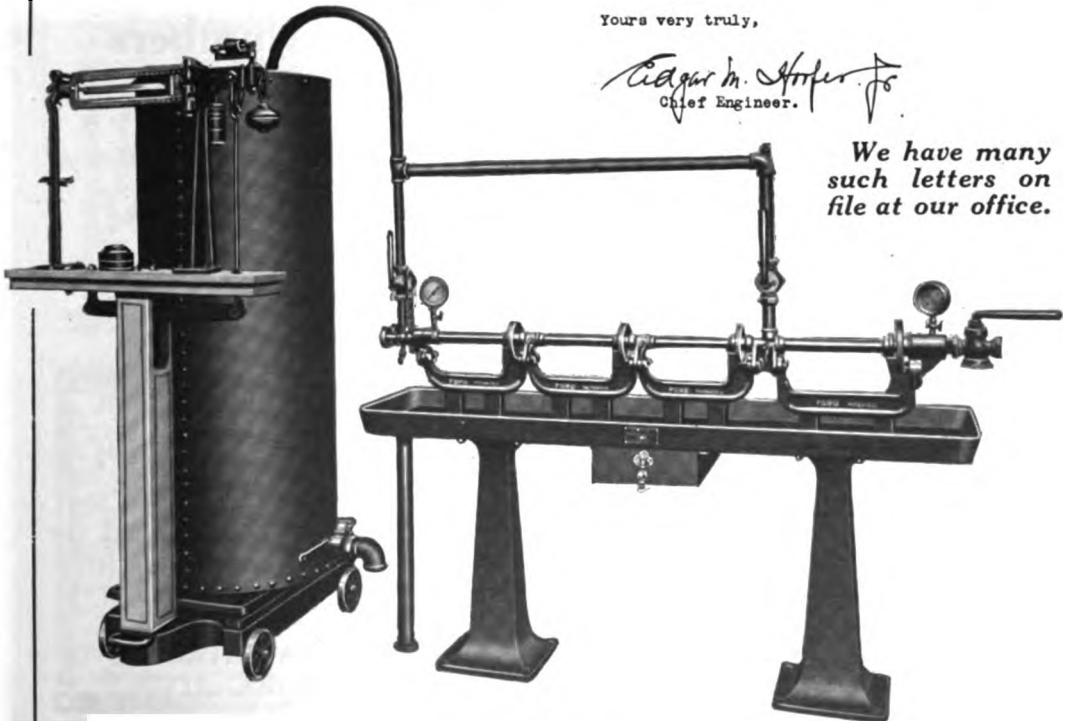
As regards the Ford Testing outfit, we have found it entirely satisfactory in every respect. For ease and rapidity of adjustment, as well as simplicity of operation, we believe the Ford machine is unsurpassed.

This statement is made after actual experience with three other meter testing plants of different manufacturers. We have no objection to your using the photograph of the Wilmington installation or these remarks regarding your outfit.

Yours very truly,

Edgar M. Hopkins, Jr.
Chief Engineer.

*We have many
such letters on
file at our office.*



WORTHINGTON METERS



CAPACITY

A FULL CAPACITY METER, 29⁸ TURNS OF DISC PER CUBIC FOOT GREATER CAPACITY THAN ANY OTHER DISC METER.

ACCURACY

TESTS AS CLOSELY ON 1-32 INCH FLOW AS THE ORDINARY COMMERCIAL METER DOES ON 1-16 INCH. WIDEST RANGE OF ACCURACY OF ANY METER EVER BUILT.

THE TRAIN

MONEL METAL PINS AND PINION. NON-CORROSIVE BRONZE GEARS. WIDE DOUBLE BEARINGS. ELIMINATION OF ALL BUT TWO GEARS.

THE DISC

HARD RUBBER COMPOSITION MONEL METAL SPINDLE, SECURING LIGHTNEES AND INCREASED WEARING QUALITIES.

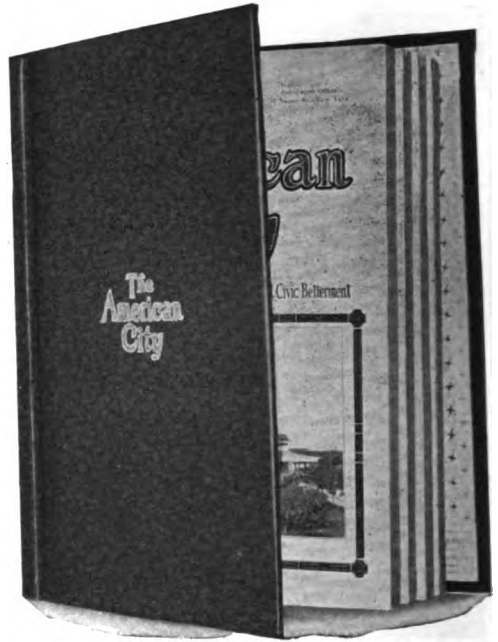
PRESSURE

STANDARD METER GUARANTEED FOR 175 POUNDS WORKING PRESSURE. COUNTER - SUNK MAIN FLANGE, SOLID BRONZE BOLTS.

Write for Bulletin W-801-72

HENRY R. WORTHINGTON

Works: Harrison, N.J. New York Office: 115 Broadway
Branch Offices in All Principal Cities W 290.4



A HANDSOME DURABLE BINDER for your copies of *The American City* may be secured for one dollar from the publishers at 87 Nassau St., New York.

Back Numbers WANTED

We desire to secure copies of the following back numbers of *The American City*.

1909

September, October, November

1912

January, April, June

1913

February, April

25 cents each will be paid for copies in good condition, delivered at our office.

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NEW YORK CITY**



"WATCH DOG" WATER METERS

Interchangeability

Low Maintenance Cost

Frost Guarantee

More than 100,000 sold during last six years. Their introduction to the trade marked an epoch in water meter manufacture.

Descriptive literature is yours for the asking. Write us.

GAMON METER COMPANY

282-296 South Street,

Newark, New Jersey

The Detector



is an absolutely reliable instrument for locating lost Gate Valves and Service Boxes.

Hundreds in Use

If it does not prove as represented, can be returned.

Write for our catalogue.

WATER WORKS EQUIPMENT CO.

50 Church Street, New York

"The Controlling Altitude Valves"
maintain a uniform stage of water in standpipes, reservoirs or tanks.

'No Floats, No Fixtures'
No overflow in case of fire pressure. Valves closed by water or electricity.

"FLOAT VALVES"
"REDUCING VALVES"

AUTOMATIC VALVES
For Steam and Water Service

GOLDEN-ANDERSON VALVE SPECIALTY CO.
Office: 1230 Fulton Bldg., PITTSBURGH, PA.

"Let those now love who've never loved before,
And those who always loved now love the more."



Long Life.

Lasting Accuracy.

All parts interchangeable.

Maintenance cost nominal.

Their merits have made meter systems popular. A good article is always worth the price. All improvements which the tests of time and long service show to be requisite in a Perfect Water Meter are embodied in the Lambert.

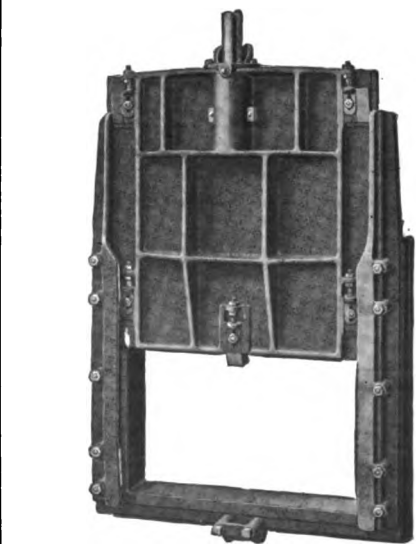
ONE MODEL ONLY

Made in all sizes, $\frac{5}{8}$ " to 6", of best bronze Composition throughout, fitted with Unbreakable reinforced disc-pistons.

Illustrated Price List on Application. Address Dept. C.

THOMSON METER CO.

100-110 BRIDGE ST., BROOKLYN, N.Y.



**Sluice, Head and Penstock Gates
Flap and Shear Valves**

The kind that don't wear out

COLDWELL, WILCOX COMPANY

Water Street

Newburgh, N. Y.



The Coleman Boulevard Lamp

Makes and Burns its
Own Gas from
Gasoline or Kerosene

It is made of cast iron, copper and brass. Will not rust out. Stands 12 feet high. Is storm proof and bug proof.

It gives a strong, white light and throws it down on the street and sidewalk where it is wanted and not up among the tree tops.

Giving 1000 candle power, midnight service costs 3 cents per lamp per night. All night service 5 cents per night. In competitive tests we have never failed to show the lowest operating cost of any gasoline or electric light made.

It is lighted and turned on from the ground in less than a minute. It is thoroughly practical and the extra "gas producer" insures against failure. Also made to give 800 candle power.

Write nearest house.

The Coleman Lamp Co.
Wichita, Kansas
Toledo, Ohio
St. Paul, Minn.
Dallas, Tex.

For any kind of a **PUMP**

That you may require for municipal service, it will pay you to investigate our line. We make hand, windmill, power and spray pumps for nearly all pumping conditions, including municipal waterworks outfits, deep well working heads, etc.



"Century" Barrel
Spray Pump

Write us your specifications.

THE DEMING COMPANY
14 Actua St., Salem, Ohio

General Agencies: Hession & Hubbell, Chicago;
Harris Pump & Supply Co., Pittsburgh;
Ralph & Carter Co., New York;
Root, Neal & Co., Buffalo.

BONDS

29 years' experience in the manufacture of all kinds of bonds and certificates—including Municipal Government, Public Utilities, Industrial and Commercial—enables us to produce such documents technically, as well as mechanically perfect.

It will be worth your while to consult us on your next issue.

ALBERT B KING & CO INC
204 BROADWAY
NEW YORK CITY
ESTAB. 1886

FOR THE RESERVOIR, SEWER
AND PUBLIC BATH

CHLORIDE OF LIME IN DRUMS

HOOKE ELECTROCHEMICAL CO.
40 WALL ST., NEW YORK CITY

Chemicals for Water Purification

We manufacture the highest grade of

Sulphate of Alumina

also

Chloride of Lime

Liquid Chlorine

**PENNSYLVANIA
SALT MFG. COMPANY**

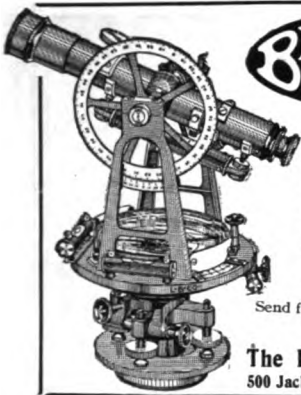
115 Chestnut St., Philadelphia, Pa.

The Best Material for **CALKING**
Joints in Cast Iron Pipes is

Ulco Lead Wool

Write for particulars to

UNITED LEAD COMPANY
111 BROADWAY, N. Y. CITY



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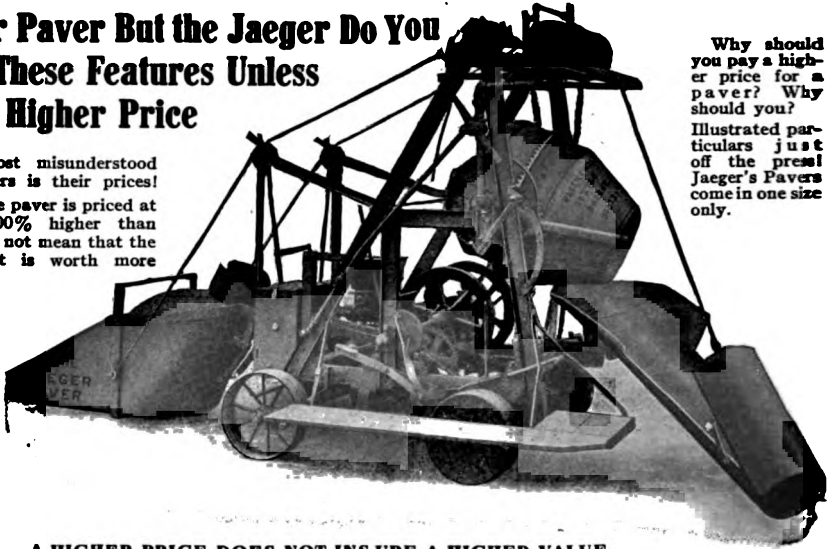
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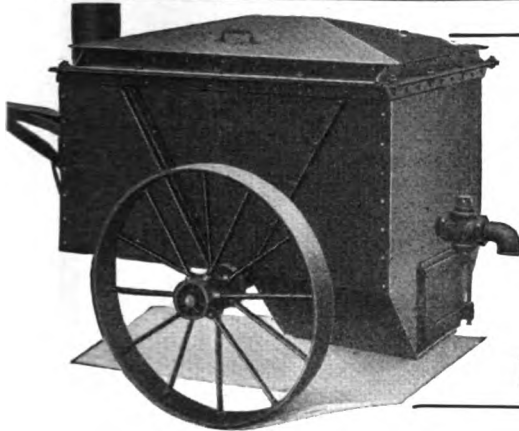


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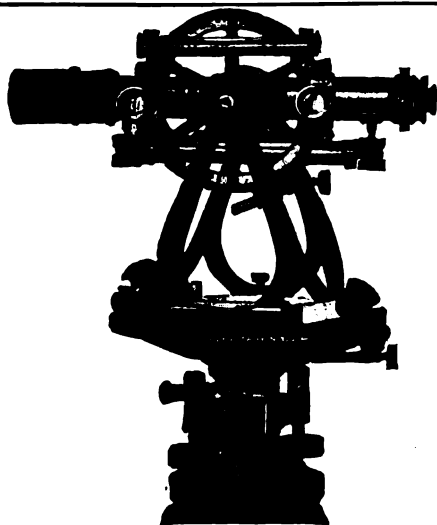
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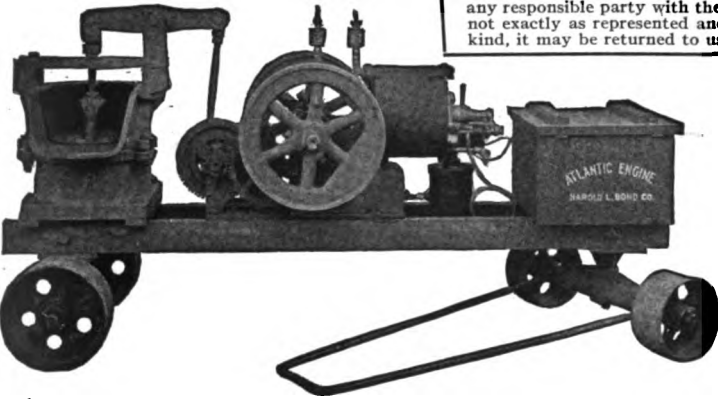
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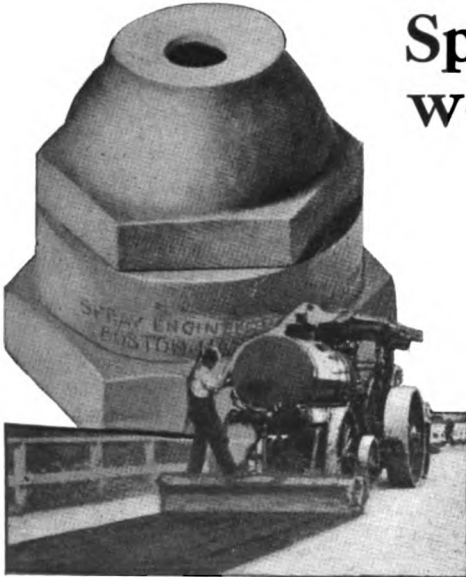
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Let one city or town install motor fire apparatus, and the other municipalities who hear of the successful work accomplished will want to follow suit.

Let one town install a filtration plant or adopt meters to reduce the water waste—and a dozen other places begin to wonder if they ought not to do the same thing.

One city becomes noted for its durable pavements, and officials from other places begin to consider the adoption of the same paving system.

The advertising which one town obtains by installing ornamental lighting for its streets, brings several others in line for the same improvement.

THE AMERICAN CITY is considered by many to be one of the most important factors in the field of municipal improvements on account of its active mission of bringing to the attention of the city, town, and village officials, boards of trade, local improvement organizations, etc., the progress that is being made along important lines in the field of municipal work. Such municipal undertakings as water supply, fire department work, paving and road building, street lighting, parks, sewage and garbage disposal, etc., which are inspired or helped along by THE AMERICAN CITY mean an aggregate expenditure of many millions yearly.

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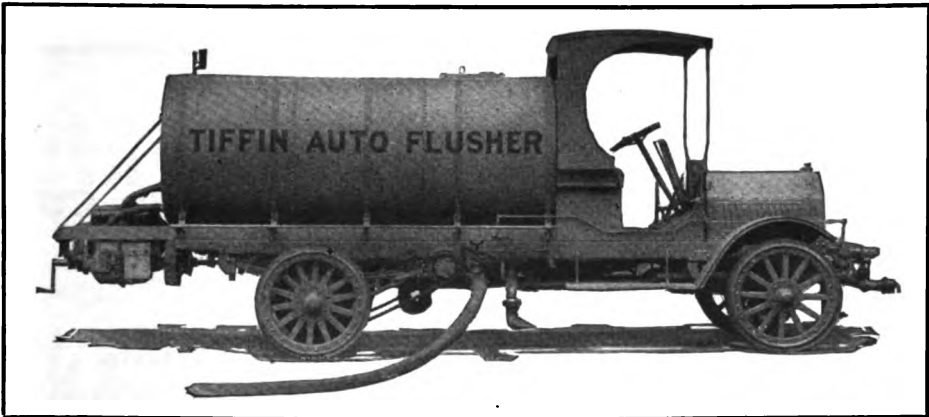
In view of the fact that many municipalities, chambers of commerce and civic organizations desire to subscribe for a number of copies of THE AMERICAN CITY for distribution among their officers, committeemen, etc., the publishers of THE AMERICAN CITY have arranged a special schedule of rates for clubs of subscriptions which will be quoted on application. These club rates are also available for individuals who wish to arrange for a number of subscriptions for their friends.

THE AMERICAN CITY

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Its remarkable capacity—1,500 gallons; its powerful six-cylinder motor for propelling and four-cylinder motor for pressure; the perfection of its every device and its herculean strength; put it in unique place in its field.

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VOLUME XIII

NUMBER 4

The American City

NEW YORK
OCTOBER,
1915

Wider Powers for New York State Cities

As Proposed in Article XIV, Section 3 of the Revised Constitution, to be Submitted to the People on November 2, 1915

Section 3. Every city shall have exclusive power to manage, regulate and control its property, affairs and municipal government subject to the provisions of this constitution and subject further to the provisions of the general laws of the state, of laws applying to all the cities of the state without classification or distinction, and of laws applying to a county not wholly included within a city establishing or affecting the relation between such a county and a city therein.

Such power shall be deemed to include among others:

(a) The power to organize and manage all departments, bureaus or other divisions of its municipal government and to regulate the powers, duties, qualifications, mode of selection, number, terms of office, compensation and method of removal of all city officers and employees, including all police and health officers and employees paid by the city, and of all non-judicial officers and employees attached to courts not of record, and to regulate the compensation of all officers not chosen by the electors and of all employees of counties situated wholly within a city except assistants and employees of district attorneys and except officers and employees of courts of record.

(b) The power, as hereinafter provided, to revise or enact amendments to its charter in relation to its property, affairs or municipal government and to enact amendments to any local or special law in relation thereto. A city may adopt a revised charter or enact amendments to its charter or any existing special or local law in relation to any matter of state concern the management, regulation and control of which shall have been delegated to the city by law, until and unless the legislature, pursuant to the provisions of section four of this article shall enact a law inconsistent therewith. The term "charter" is declared for the purpose of this article to include any general city law enacted for the cities of one class in so far as it applies to such city.

The legislative body of the city may enact such amendments, subject to the approval of the mayor and of the board of estimate and apportionment of the city if any there be; provided, however, that in a city in which any of the members of the board of estimate and apportionment are not elected or in which no such body exists, no such amendment shall be enacted without the assent of two-thirds of all members elected to such legislative body. Every such enactment shall embrace only one subject, and shall expressly declare that it is such an amendment. Every amendment which changes the framework of the government of the city or modifies restrictions as to issuing bonds or contracting debts, shall be submitted

to the legislature in the year one thousand nine hundred and sixteen on or before the fifteenth day of March, and in any year thereafter during the first week of its next regular session, and shall take effect as law sixty days after such submission unless in the meantime the legislature shall disapprove the same by joint resolution. Every other such amendment shall take effect upon its enactment as above provided without such submission to the legislature.

The legislature by general law shall provide for a public notice and opportunity for a public hearing by the legislative body of the city concerning any such amendment before final action thereon by it.

At the general election in the year one thousand nine hundred and seventeen, and unless its charter after one revision thereof shall otherwise provide, in every eighth year thereafter, either at the general or at a special election, every city shall submit to the electors thereof, the question "Shall there be a commission to revise the charter of the city?" and may at the same time choose seven commissioners to revise the city charter in case the question be answered in the affirmative, provided, however, that in the city of New York the number of such commissioners shall be sixteen. . . . Such revision when completed shall be filed in the office of the city clerk, and not less than six weeks after such filing shall be submitted to the electors of the city at the next ensuing general election or at a special election to be called for that purpose. If such revision be approved by the affirmative vote of the majority of the electors voting thereon such revision shall be submitted to the legislature during the first week of its session in January of the year following the approval thereof, and if not disapproved by the legislature by joint resolution prior to the first day of July thereafter, shall thereupon take effect as law except as therein otherwise specified. The legislature shall by general law provide for carrying into effect the provisions of this paragraph.

Every charter revision and every amendment of any provision of law, enacted pursuant to this section, shall be deposited with the secretary of state and published as the legislature may direct.



THE SNOW-FIGHTING FORCE IN NEW YORK CITY, CLEANING UP ON THE DAY FOLLOWING A STORM. THIS SNOW WILL ALL GO INTO THE SEWERS

Preparing for Snow Storms

The Snow Problem of New York City and its Lessons for Other Cities

By Raymond W. Parlin

Engineer with the New York Bureau of Municipal Research

FOR years New York has allowed the snow storms to control the city. Snow has fallen, lain on the ground, stopped traffic, interfered with business, packed, turned black and filthy, and made itself generally disliked; while contractors' forces of men and teams have frantically picked, shoveled, loaded and banked the mass slowly away to the rivers and dumped it there. Other cities further north get on top of the old snowman's back and ride there. New York cannot do this often enough to make it safe to figure on solving the snow problem this way. She must entirely remove it from her busiest streets and make the others passable for vehicles on wheels.

It has long been realized by the city forces that snow should be removed more quickly. Every winter snow has made life miserable for the street cleaning department, and the people have "knocked" the commissioner for his failure to make good in this matter. Several times conditions

have been so bad that investigations were started to find a better way to dispose of the snow, but nothing radical happened until early in 1914.

From February 13 until March 8, 1914, one storm followed another so fast that the city could not dig out from under one before another came. For weeks the streets were blocked with great piles of snow, or covered with rough, black, filthy ice and slush. An idea of what this meant to New York can be had by understanding that for over forty days some 3,000 vehicles and 9,000 men, even with the help of the sun and melting from the heat in the warm streets, were unable to place the city in presentable condition. In the meantime coal dealers, brewers, expressmen and others paid as high as \$20, and even \$30, per day for a team and driver to keep their business from coming to a standstill. Finally, after breaking all previous records for snow removal by carting away over one million loads and spending two and one-half million

dollars, the city was freed from the grip of the storms. It was a terrible job, but a good lesson. The public demanded in no uncertain terms that preparation be made so that such conditions should not occur again.

Fortunately in the harness as Commissioner of Street Cleaning was John T. Fetherston, a quiet, clear-thinking, fearless engineer, who grasped the benefits of the winter's lesson, analyzed the defects in the methods that had been used in the past, and even while in the struggle with this, his first winter, saw the solution to the problem. He reasoned thus:

We have 3,000 teams and can't get more.

They will each haul ten loads a day of five cubic yards.

This means 150,000 cubic yards a day, or for 5,000,000 cubic yards, 33 days' work at least.

One more load a day per team will not help much.

We must shorten the haul and get many more loads a day, or find some new way.

We put the snow into the rivers and they carry it to sea or melt it.

The sewers are little rivers. Why can't they carry the snow to the big rivers and eliminate the haul entirely?

The very largest sewers had been used as dumping stations for trucks in some eighty places. Some of the smaller ones had been used temporarily by the street cleaners when the sewer department forces were not looking, but such efforts were very discouraging to these men—because, when caught, they were arrested and fined for the offense.

A few experiments were tried on the sewers under the stress of the very bad conditions of the winter of 1913-1914, which showed that sewers could be used much more for snow removal than it had been believed possible in the past, and without any injury.

The question for the commissioner was how can we get the right to use the sewers, and how much work will they do? The problem was put before everyone interested. The Bureau of Municipal Research said: "The remedy is simple. You departments of the city service must pull together for the good of the city as a whole, and forget your private interests."

The sewer bureaus had always said: "Our sewers will be injured and the expenses of our department increased. They must not be used." This year, thanks to the spirit of unselfish public service which

had developed, the answer was: "Let us see what the sewers can do. We will take a chance of some trouble, even if it costs us a few thousands of dollars. The saving of a few hundred thousand of snow funds will more than make up for it."

Thus with hearty coöperation between the street cleaning department, the Bureau of Municipal Research, and the sewer bureaus, a very thorough study was made during the hot summer months, a plan of the winter's campaign drawn up, and everything prepared for the battle. Every available man employed by the city who could be drafted was counted upon to be ready to help temporarily and the services of whole departments were requisitioned.

Roughly, the plan consisted of three kinds of work—

- (1) Snow fighting,
- (2) Snow removal,
- (3) Clearing for traffic.

SNOW FIGHTING INVOLVED:

The registration of all unemployed men or others who wanted to work on snow removal

The rapid mobilization upon a moment's notice of a force of 12,000 emergency laborers, together with the regular street cleaning force, by the aid of the police patrolmen

The holding in reserve of one-half of the street cleaning force and the mobilization of 12,000 more laborers for a second shift to start work about nine hours after the first

The cleaning of the snow from some 750 miles of streets, commencing when it started to fall, or within a few hours after, working with the storm, and by continuous work finishing a few hours afterward, thus insuring work on soft, fresh snow which would not in any way injure the sewers

The disposal of the snow throughout the city on several hundred miles of streets, and thousands of street intersections, directly into the sewers through the manholes, where possible, and the piling of the remainder out of the way of traffic until it could be removed by the snow removal force

SNOW REMOVAL INVOLVED:

The removal of snow by the street railway companies from over 80 miles of streets on which their tracks ran, which was an area equivalent to their total trackage area on all streets which must be cleaned

The utilization of the private truckmen's resources of horses and vehicles to cart away the snow from nearly 100 miles of streets where the sewers were poor, through a contract system under which a fixed price was paid per cubic yard of snow loaded and removed

The utilization of men from other city departments as inspectors over the contractor's forces, and the police in controlling traffic, so that the refuse collection forces could continue



HEAPS OF SNOW WHICH WERE CARTED TO THE RIVER FRONT IN 1914

with their work, instead of drafting men from them as in previous years

CLEARING FOR TRAFFIC INVOLVED:

The clearing of important streets for traffic by automobile snow plows running over special routes once every two hours, and the operation of horse-drawn scrapers on other streets

In brief, quick, hard, continuous, coöperative fighting of the snow as it appeared, and its rapid removal by all possible means after it fell, was the aim of the planners of the campaign, so that normal conditions might be se-

cured as soon as possible and the hard, expensive, ineffective work on compacted snow avoided

The results obtained in the winter of 1914-1915 showed the plan a great success.

The forces were called out three times. As many as 12,000 men were at work within four hours after the call for laborers went to the police department.

Forty thousand men were registered.



THE OLD WAY OF CARTING THE SNOW TO THE RIVER-FRONT AND DUMPING IT THERE.
NOW MORE THAN HALF OF THE SNOW FLOWS THROUGH THE
SEWERS TO THE SAME PLACE



DUMPING DIRECTLY INTO THE TRUNK SEWERS

The police called them out with ease and great speed.

The sewer bureaus granted the use of the sewers and furnished gangs to take care of them.

The other departments furnished hundreds of men for clerks and inspectors.

The bureau of weights and measures measured all vehicles.

The finance department checked up the

force and paid them off on the day following the storm.

The snow disappeared as if by magic.

Eight times as much snow was removed per dollar spent, compared with previous years, and four times as fast.

Where it cost nearly 55 cents per cubic yard in 1913-1914, it cost 7 cents in 1914-1915.



A TYPE OF PLOW DEVELOPED BY THE NEW YORK DEPARTMENT OF STREET CLEANING WHICH WILL KEEP A STREET OPEN FOR TRAFFIC WHEN ATTACHED TO A COMMERCIAL AUTOMOBILE

Lessons for Other Cities

Two real lessons are taught by the experience during the past winter which can be made of great value to the other cities in the northern part of this country, namely:

1. That sewers will carry away fresh snow effectively without clogging and at a much lower cost than is possible under any carting system

2. That close, intelligent coöperation between city departments, under competent guidance, will accomplish results which can be of the greatest benefit to the city as a whole

The former is perhaps a new idea to many, but the latter is apparent to all, yet

one of the greatest defects in municipal government to-day is due to the narrowness of the view of many department officials.

If this article will awaken in a single city a coöperative movement on the part of several departments for the common good and help to bring about the elimination of the selfish operation of one department at the expense of another, it will have been worth while.

Let the test of success in the public service be whether the public has been benefited, not whether the department or office has made a record.

How a Chamber of Commerce Promoted an Adequate Municipal Water Supply

By Vincent S. Stevens

Secretary, Akron Chamber of Commerce

SUCCESSFUL coöperation between a commercial organization and city officials has been finely demonstrated in the completion of the new municipal water-works system at Akron, Ohio. A joint celebration, in which the Akron Chamber of Commerce and the city government took part, was held September 1st.

The new system, which cost about \$4,500,000, is one of the most complete water systems in the United States. It consists of a municipally owned reservoir, coagulating basin, aerator and sand filters in its purification plant, double capacity pumping station and a gravity pressure reservoir holding a 36-hour supply of water. The system is not only adequate for Akron's present population of 100,000, but will provide for a growth to about double that population.

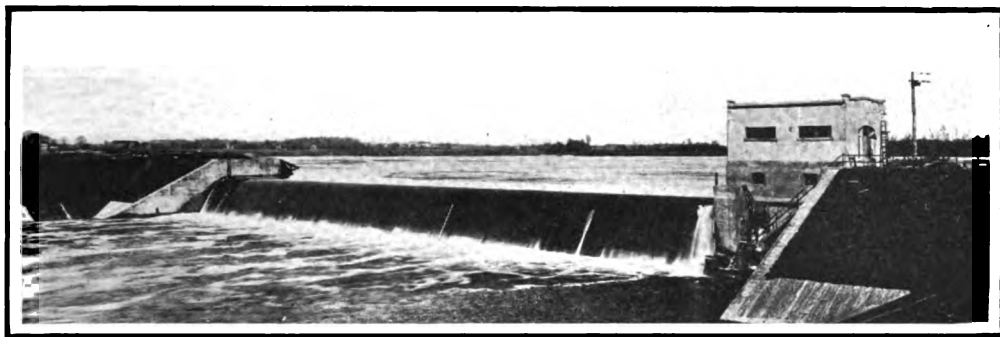
The completion of the Akron water-works system marks the successful ending of a plan and program carried on continuously by the Akron Chamber of Commerce during the past six years, through changing political administrations in the city government.

The Chamber of Commerce, soon after it was organized, took up the question of securing a pure and adequate supply of water as the most important problem before the citizens of Akron. Water at that time was

furnished by a private corporation, and the quality and quantity were entirely inadequate for the needs of Akron's rapid growth. The water problem had been the football of politicians for many years in Akron. The Chamber of Commerce took it up as a business proposition and appointed on a special committee some of Akron's most representative citizens.

There was a strong element in Akron in favor of the city's launching forth on a program to build a new water system in competition with the old company. Some of the politicians succeeded in calling a special election to submit to a vote of the people the question of issuing \$750,000 of bonds, for starting the construction of a plant, without having adequate plans or estimates prepared to show its probable ultimate cost. The Chamber of Commerce opposed this as an unbusinesslike proceeding and succeeded in defeating the issue at this election.

Negotiations were then taken up with the old company for the purchase of its plant. The company declared that it would not sell for less than \$998,000; but, largely through the efforts of the Chamber of Commerce committee, the city was finally successful in securing a price on the plant of \$845,000. The question of purchasing the



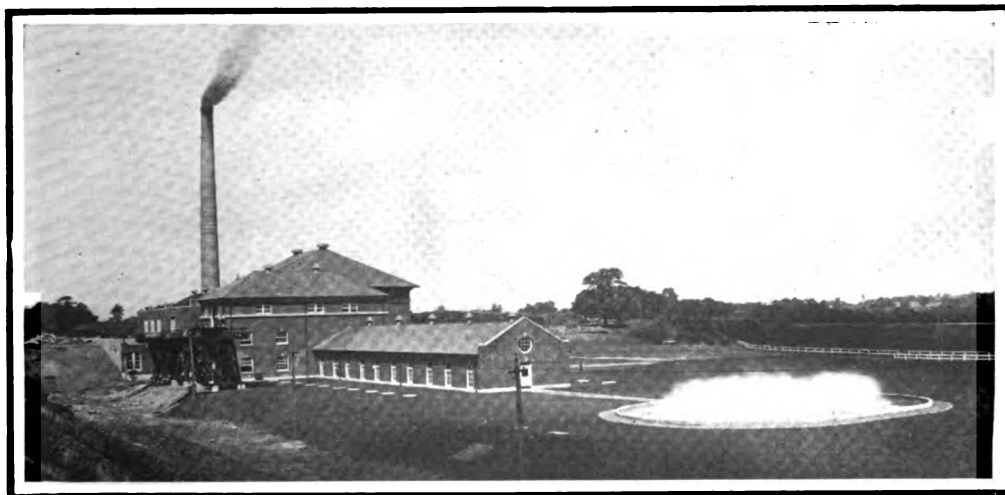
AKRON WATER-WORKS DAM ACROSS CUYAHOGA RIVER

plant was then put up to a vote of the people at a special election, and it was carried by a large majority.

In the meantime expert engineers had been employed by the city, upon the recommendation of the Chamber of Commerce, and plans and specifications were prepared for a fine new municipal system, using the Cuyahoga River as the new source of supply. Before the new source of supply recommended by the engineers was made public the Chamber of Commerce furnished the city with funds to secure options on over 1,000 acres of land in the Cuyahoga River valley needed for the new reservoir. This land was purchased at farm-land values. It is estimated the Chamber saved the city between \$50,000 and \$75,000 by this move, as land values in that section were increased very rapidly as soon as the plans of the water-works engineers were made public.

Bond issues to provide funds for the construction of this new system were submitted at special elections from time to time as the money was required. The Chamber of Commerce took the lead in the campaigns in behalf of these issues each time, and each election was carried by a very large majority.

The new reservoir is about $\frac{3}{4}$ mile wide and $\frac{3}{4}$ miles long. It has a storage capacity of 2,385,800,000 gallons. The new works are equipped with a complete purification system, using the chemical and sand filter process, with a daily filtering capacity of 20,000,000 gallons. The pumping station, which has a pumping capacity of 33,000,000 gallons daily, is located in the Cuyahoga River valley about 12 miles from Akron. The water is pumped through a 36-inch pipe line to a pressure reservoir on a hill east of the city, which gives a strong pressure in the mains throughout the city



AKRON'S NEW PUMPING STATION

of Akron. A hydro-electric plant was constructed in connection with the new 20-foot dam, which develops sufficient electricity to light all the grounds and buildings and enough power to operate the low lift pumps and drive an auxiliary pump of 3,000,000 gallons capacity.

The new water system, with the improvements and the complete motorization of the city's fire department, has reduced Akron's

fire insurance classification from $3\frac{1}{2}$ to 2, resulting in a general reduction in insurance premiums which will amount to \$30,000 or \$40,000 annually. Thus Akron's citizens, in constructing the new municipal water system, in addition to securing an abundant supply of filtered water with adequate pressure throughout the city, have secured quite a material reduction in their insurance premiums.

Knoxville's Street Improvement Scheme

By J. L. Bowles

General Secretary, Knoxville Board of Commerce

THE way in which Knoxville, Tenn., is improving the appearance of its city streets is shown in the accompanying illustrations.

One of the photographs shows the intersection of Gay and Wall Streets, in the heart of the city, under former conditions. The street was in a bad state of repair, and telephone, telegraph and trolley wires were

suspended from unsightly wooden poles. A striking contrast is evident when this view is compared with the one which follows it, which shows the street as it now is, with new paving and ornamental lighting standards, and with telephone and telegraph wires eliminated. These wires, in both business and residence districts, are provided for in about ten miles of under-



MAIN AVENUE, WEST KNOXVILLE, TENN., WITH BITULITHIC PAVING

The trolley wires are the only ones above ground

ground conduits; trolley wires, the only ones seen above ground, are supported by uniform iron poles, placed equidistant and made as inconspicuous as possible.

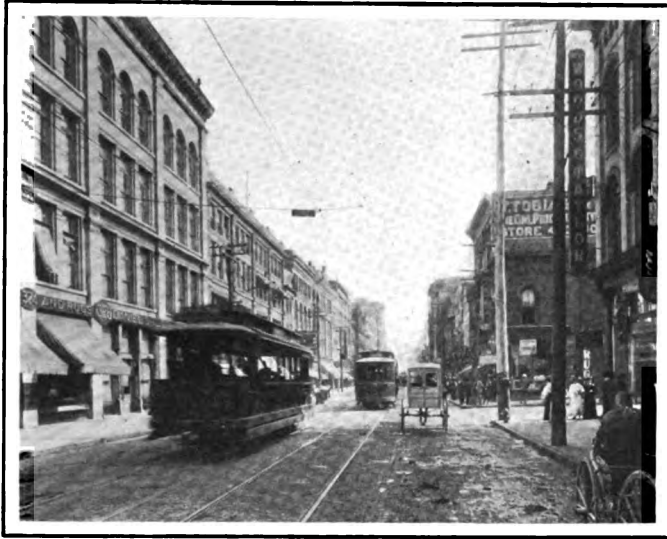
This street extends for nine blocks, from

owner pays only two-thirds of the cost of the paving from the base upward, while the city pays the other one-third and also bears the expense of excavating, laying sewers and other incidental work.

In the picture on page 286 is given a view of Main Avenue in West Knoxville, showing the bitulithic paving and the elimination of all except trolley wires.

Knoxville now has 30 miles of paved streets, most of them asphalt, and contracts for additional work are being let every few months. Practically all of the existing paving has been done since 1907.

The difference between old and new conditions is so apparent in the accompanying pictures and the result of the changes shown is so favorable that readers outside of our city are likely to find interest



GAY AND WALL STREETS, KNOXVILLE, BEFORE WIRES WERE PUT UNDER GROUND AND STREET PAVED

the Southern Railway passenger station to the Tennessee River. The paving is asphalt to the street car tracks, and wood blocks between the tracks. The street car company paid for the wood blocks and for the conduit system, and the citizens and the city of Knoxville paid for the asphalt paving. The cost to the citizens and the city approximated \$40,000, while the cost to the Knoxville Railway & Light Company was between \$300,000 and \$400,000. This paving was done under what is known as the "abutting property law," which provides that the owner of land on a street to be paved must pay $33\frac{1}{3}$ per cent of the cost and the city $66\frac{2}{3}$ per cent. Actually the city pays a larger proportion than these figures indicate, for the property



THE SAME CORNER AFTER REMOVING OVERHEAD WIRES AND PAVING STREET WITH ASPHALT

in the story of what has been done here to make the streets attractive. Such improvements are stimulating to the civic pride of visitors from other cities.

The Santa Cruz Electrolier

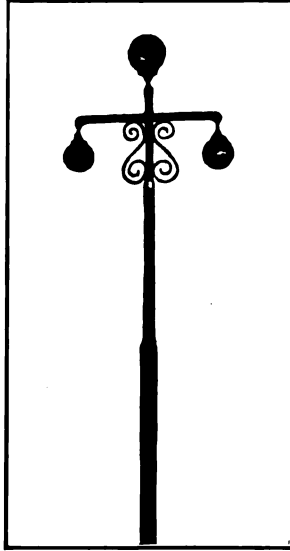
By Fred R. Howe
Mayor, Santa Cruz, Cal.

WHEN the need for ornamental street lighting in the city of Santa Cruz, Cal., became recognized, it was suggested that an inexpensive electrolier could be installed on the main street of the city by sharing the expense equally between property owners and tenants. It was found that the people were unwilling to pay the price of some of the higher grade types manufactured, and it was therefore decided to make an electrolier of much cheaper design, using black iron pipe with screw joints. After considerable study the design herewith reproduced was adopted.

The electrolier is so constructed that if in the future a more attractive cast iron upright standard is desired it will be necessary only to remove the cross-arm at the top and set the new standard over the remaining pipe; the underground work is first class and will require no further expense.

This type of electrolier has been in service in Santa Cruz for five years and has been so much admired that the Southern

Pacific Railroad Company has adopted it and is now installing it in the depots between San Francisco and Los Angeles.



THE SANTA CRUZ TYPE
OF ELECTROLIER

Three openings are cut in the 4-inch x 8-foot length; one of these is cut 6 inches above the sidewalk and is made 4 x 6 inches, with a cover 6 x 8 inches, which is screwed to the pipe, and this opening is used to connect the electrolier to the underground wires; the other two openings are placed from 2 to 18 inches below the sidewalk, according to the position of the underground work—whether it is to be placed on top of the sidewalk or below the gutter line in the street. These lower openings measure 1½ x 6 inches and are used for the introduction of the conduit. The electrolier is placed 3 feet in the ground and concreted in with a mixture

of 5:1.

The Cost

Iron standard, pipe and fittings, with pockets cut and drilled.....	\$10.50
Two scrools	1.50
One 6-inch canopy complete with nipple reducer and screws.....	.90



THE ORNAMENTAL LIGHTING ON A SANTA CRUZ STREET

Two 5-inch canopies complete as above.....	1.30
Three weatherproof sockets.....	1.50
Wire, tape, solder and gasoline.....	1.00
Two 10 x 5 globes.....	2.50
One 12 x 6 globe.....	1.75
Three 40-watt Mazda lamps.....	.90
Cement and gravel for setting electrolier.....	1.00
Labor per electrolier.....	2.00
Painting and trimming, two coats.....	1.00

The underground conduit costs about 6 cents per foot, the cost being governed by the size of the job. Repairing sidewalk and street costs from 11 to 15 cents per square foot. The approximate cost of the electrolier complete, set up and ready for opera-

tion, is from \$30 to \$32, according to the size of the job and the kind of street. The cost of operating these electroliers is \$1 per month for 120 watts on all-night and every night service, 11/9 cents per light per night, or .025 per kilowatt hour.

City Electrician J. C. Geyer reports that during the fiscal year ending June 30, 1915, 245 of these electroliers were installed throughout the city, containing 679 40-watt lamps, using approximately 27.2 kilowatts per hour, or 8,148 kilowatts per month, at a cost of \$194 per month.

Means Employed in New York Theatres for Reducing Fire Hazard

A NEW YORK theatre to-day is said to be one of the safest buildings in the world, so far as protection from fire is concerned. Many safeguards against fire have been thrown around audiences who patronize the playhouses and much has been done to minimize the possibility of panic. Supervision of the theatres by officials responsible for the enforcement of laws, ordinances and regulations for the prevention of fire is constant. The last annual report of the New York Fire Department gives the details of this protection.

Fire Precautions

Few theatregoers know to what extent precautions are taken by the Fire Department to see that theatres are properly protected. Behind the scenes of every theatre in New York City is installed an adequate sprinkler equipment over the stage and dressing rooms. The sprinkler heads are designed to open automatically in case of fire and throw water in a quantity sufficient, except under unusual circumstances, to extinguish the fire. In addition, there are many auxiliary fire appliances, hose lines, extinguishers, fire buckets, etc. In the basement of every theatre is a pumping device which begins to work automatically the moment any of the stand-pipe connections running through the theatre are opened. This pump is really a stationary fire-engine capable of throwing not less than 250 gallons of water a minute. It continues throwing water at great pressure so

long as the hose valve is open. This pump is operated by electrical control and is constructed to respond instantly and unfailingly whenever the pipes are opened.

Independent of the powerful pump in the basement, there is on the roof of the theatre a tank containing not less than 3,500 gallons of water. Should the water in this tank fall below a certain level, an indicator rings. In this case the pump usually begins to work automatically and fills the tank to the required level.

On each side of the stage high, solid brick walls run from the basement of the theatre up to four feet above the level of the roof, entirely cutting off the stage from the audience, with the exception of the open space occupied by the curtain. In the event of fire, the asbestos curtain drops down and closes this opening, forming a complete wall to prevent the fire from reaching the audience. The asbestos curtain may be dropped instantly by the cutting of thin cords at the side of the curtain. Knives for cutting these cords are always in place.

Through the solid brick wall that extends from the basement to the roof various apertures must be cut in different places for the passage of people back and forth, though no door can be cut in the proscenium wall above the stage level. Every door in these apertures is a "fire door." It is usually made of wood, covered with tin and lock-jointed so as to prevent fire from passing through it. These doors are kept in position by counterbalanced weights. A mech-

anism known as a "fusible link" is attached to the chains holding the doors in position. This link will melt when exposed to 165° of heat. In melting it releases weights which close the doors automatically.

Over the stage of each theatre is a skylight so arranged that it will open automatically when fire occurs. This lets out the heat and smoke and draws the fire up and out of the theatre, away from the audience. The cutting of a single cord, or its burning away by the fire itself, or the melting of a "fusible link," opens the skylight and thus allows the free passage of air, smoke and flames.

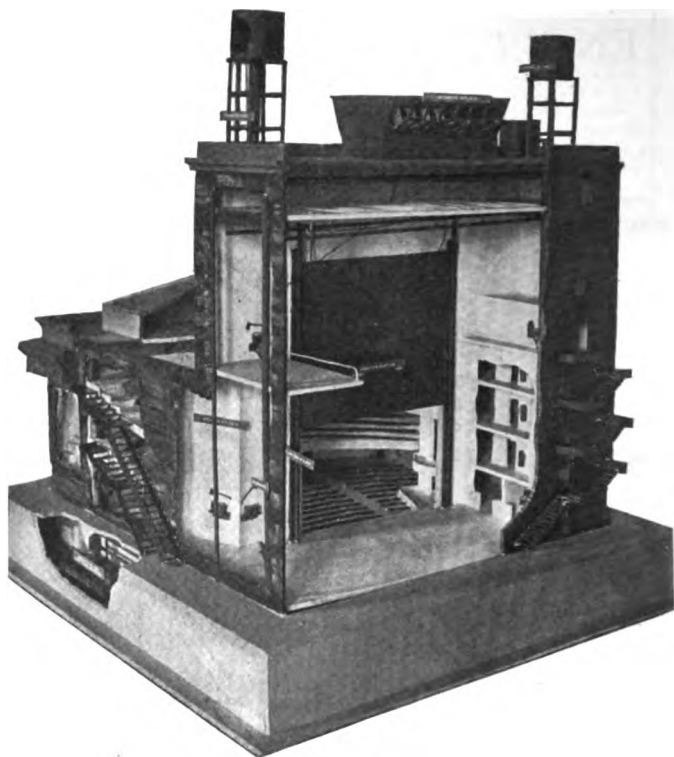
Special Fire Alarms

The theatres have special fire alarm boxes connected directly with Fire Headquarters. Any alarm sent in from a theatre is sure to be responded to in a few seconds.

Exit doors in theatres are required to be kept unlocked or to be equipped with an ingenious device called a "panic bolt," which opens the door if anyone on the inside falls against it. This bolt is connected to a long bar running across the door. The panic bolt yields to the least pressure from within.

Firemen at Every Show

To every performance in every theatre where there is a stage and where scenery is used, the Fire Department sends a uniformed fireman. He is required to reach the theatre one-half hour before the performance begins and to make a complete inspection of the entire building. He must open and shut all exits, try all fire doors, examine the asbestos curtain with rope attachments, skylights and extinguishers, and make a general survey of all the protective



"MODEL THEATRE," BUILT BY THE NEW YORK FIRE DEPARTMENT

This model is now at the Panama-Pacific Exposition. It was built to show how applied fire prevention protects theatre audiences from fire. The photograph was taken from "behind the scenes," looking towards the audience. It shows sprinkler and stand-pipe tanks on roof; automatic ventilator; asbestos curtain, partly raised. On the right-hand side are dressing-rooms and fire escapes therefrom; over the stage and the dressing-rooms are sprinklers; fire-escape stairways leading from galleries are shown. The model also shows the fire axes, hose racks, automatic fire pump in basement, etc., included in the equipment.

devices. He must make at least three tours of the building during the performance and see that halls and exits are not blocked by persons standing.

Slow-Burning Moving Picture Films

An important activity of the New York Bureau of Fire Prevention has been the attention given to the subject of moving picture films. Recognizing the danger to the public from the use of the nitro-cellulose film, the New York Fire Department has endeavored to encourage the manufacture and general use of films made of safe substances. A number of experiments have been conducted, and the Department has made, for its special use in educational propaganda, a series of films on slow-burning material, which, so far, have proved satisfactory.

ENGLISH HOUSING FROM AMERICAN POINTS OF VIEW

(Continued from the September number)

Financing English Housing

By John Ihlder

Field Secretary, National Housing Association

MOST of the dwellings which shelter Englishmen from the weather are erected by the commercial builder. This is one of the things which prove the whole world kin. For the well-to-do this method has been fairly satisfactory, though the recent lawsuit brought by a noble lord against those who erected him a pretentious dwelling indicates that satisfaction is not universal even among the very fortunate. Among the less-than-fortunate, satisfaction is exceptional. Liverpool boasts that it was, if not the birthplace, at least the work-place of a certain Jerry whose fame has become international. England also furnishes the scene of a story whose hero is a later jerry builder. One of the houses he was erecting collapsed. On investigating, he found that his foreman had been at fault, since he had permitted the removal of the scaffolding before the wall paper was put on.*

This story illustrates graphically the ideals which guided the building of great

areas in the growing industrial towns of England. It was a case of reducing the initial cost to a minimum and letting those who bought beware of the later cost of maintenance. The result is the English slums with their mean, monotonous streets and their fearful land overcrowding—there are parts of Liverpool which contain 161 houses to the acre,† though happily the English jerry builder never developed the American tenement.

Better Housing Standards

But at last came revolt. The disastrous effect upon the nation became too evident to be longer ignored. A series of laws was passed requiring better standards. The most important of these, the Housing and Town Planning Law, etc., of 1909, which reenacts preceding legislation and adds to it, will go far toward preventing the development of new slum areas.

Meanwhile, statesmen, both in and out of office, began to interest themselves in the erection of better dwellings to supersede those of which they had grown so heartily ashamed. Among the first of these was the American, George Peabody, whose long residence in England had made him familiar with the wretchedness of the wage-earner. English men and women also began to consider the question one worthy of their attention. Among them appeared such figures as that of Miss Octavia Hill, who demonstrated that even slum dwellings are more profitable—over a long series of years—if kept in good condition and well managed. Then the municipalities began to

* A distinguished Englishman to whom the manuscript of this article was submitted for criticism expressed the fear that the story of the house which collapsed might be taken seriously by some American readers and so bring undeserved discredit upon English builders. Though the writer heard the story from an Englishman, he believes that it might well have originated in other countries. For instance, there are at the present moment in a Pennsylvania city the ruins of three brick houses which collapsed after the wall paper was put on.

This critic also objected to the statement regarding land overcrowding in the next paragraph, saying that it "is restricted to a few of the older parts of cities." Admitted that it is worse there than in the newer districts, yet to American eyes land overcrowding seems to be general not only in the industrial districts of the large cities, but even in those of the small cities and towns where the solid brick rows with their tiny back yards march in unbroken ranks to the open country. Landowners in England pay no taxes until land becomes revenue-producing. So the sudden transition from agricultural acreage to over-intensive use. Moreover, because of feudal tenure and settled family estates, a considerable amount of land is held out of the market.

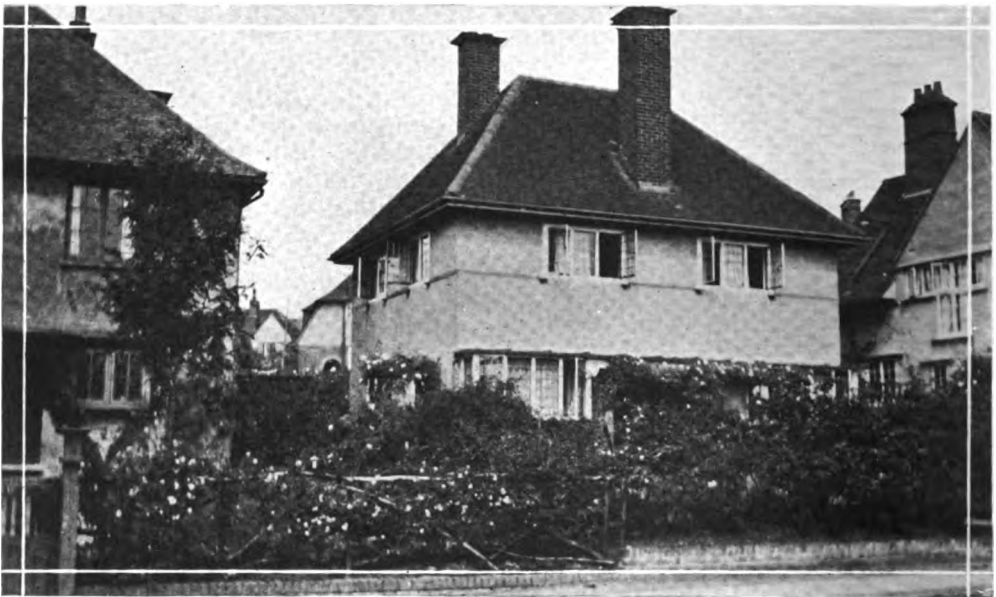
† Statement of Col. Kyffin-Taylor, M. P., to the International Conference, July, 1914.

erect dwellings. Then came the garden suburb and garden city movement and the organization of co-partnership societies.

Private and Public Enterprises

Differing as these do in many respects, the private enterprises at least have one factor in common which distinguishes them from commercial building—they limit the return upon the investment. Instead of being purely speculative, with the one thought of reaping immediately as large a financial harvest as possible and then getting out so as to avoid the after economic and social effects, they are designed to be safe business investments giving a comparatively small return, but safeguarding the principal by proper planning, honest construction and

going. To overcome the inertia of a community, to make a nation realize that it must give up its lazy belief in the automatic working of supply and demand and begin actually to think and act, is a service that can scarcely be overrated. That these philanthropists substituted tall barrack tenements for small houses under the delusion that all the poor need is a sanitary shelter, not a home; that they had a touching faith in the amount of philanthropic capital which would engage in such enterprises regardless of the market rate for money,* are matters of comparatively small interest. That the municipalities when they began building adopted some of the mistakes of the philanthropists, such as the erection of barracks instead of homes, we can also re-



HOUSES IN HAMPSTEAD GARDEN SUBURB

far-sighted management. Though the municipalities which have gone into the house-building business have not formally limited the return they may get from their investment, no one worries for fear it may prove inordinate. The worry is on quite the opposite score.

The Peabody Buildings and other dwellings erected by those whose first thought was philanthropy deserve all the credit due to pioneers. That they embody errors which we now believe to be fundamental is undeniable. But this is far overshadowed by the fact that they actually started things

going. To overcome the inertia of a community, to make a nation realize that it must give up its lazy belief in the automatic working of supply and demand and begin actually to think and act, is a service that can scarcely be overrated. That these philanthropists substituted tall barrack tenements for small houses under the delusion that all the poor need is a sanitary shelter, not a home; that they had a touching faith in the amount of philanthropic capital which would engage in such enterprises regardless of the market rate for money,* are matters of comparatively small interest. That the municipalities when they began building adopted some of the mistakes of the philanthropists, such as the erection of barracks instead of homes, we can also re-

gard with considerable equanimity, for the municipalities, like the philanthropists, are scarcely likely to do more than scotch the housing problem, and even so they are learning. In the later municipal building enterprises dwellings are lower, the one-family house is beginning to appear. So we learn from the experience of the pioneers who blazed the way.

As the philanthropists went into house building because of their interest in humanity, so the municipalities have gone into it

* The Peabody Donation Fund since 1878 has increased a little less than three per cent per annum.

because of theories of community benefit. In both cases the financial returns have been such as to put a definite limit upon the enterprise long before it can solve the problem.

Results in Various Cities

In Manchester, for instance, plans already worked out have been held up for years because of the heavy annual deficit already resulting from municipal housing.* This amounts to £15,000 a year, according to one city official. Another said that with rents amounting to £10,000 a year from municipal dwellings, the charges are £24,000. But £8,000 is repayment of capital, so the net loss is some £6,000. The report of the city treasurer for the year ending March 31, 1913, contains the following totals:

	£	s.	d.
Capital outlay	444,840	13	4
Expenditure	12,798	4	1
Loan charges, etc.....	20,486	1	11
Income	19,096	2	8
Total net deficit.....	14,188	8	4

Liverpool, which, it is sometimes claimed, has solved its housing problem by means of its municipal dwellings, has an annual deficit of £34,213. This is equivalent to 2¼ pence in the pound for the taxpayers. The total expenditures of Liverpool for its municipal dwellings up to December 31, 1913, were £1,163,465.†

Yet in spite of this great expenditure Liverpool is still a very long way from having rid itself of dwellings that are a menace to health, morals and good citizenship of its people. Just around the corners from its municipal tenements are squalid, dingy streets and courts which realize all the bad things that have been said of its housing in the past. At least, so it seems to a visitor, though the local authorities say that the municipal dwellings occupy areas which were worse than any now existing. These municipal tenements and cottages contain 2,747 apartments and shelter 10,223 persons.‡ The proportion this bears to the whole problem is indicated by the statement that in 1864, when Liverpool became concerned about its housing, there were 22,000 insanitary houses sheltering more than 100,-

000 people.* Another indication is contained in the statement that up to 1896 about 10,000 insanitary houses were demolished by the city and by private owners, and it is estimated that 40,000 persons were thus unhoused.† These people frequently crowded into neighboring houses and into cellars. In 1898 there were 12,000 persons living in cellars. By the end of 1913 the number had been reduced to a little less than 3,000. Evidently private owners, too, have been busy during these years, for by far the greater part of the municipal dwellings have been erected since 1896, and the policy has been to house in them the same people who had been dispossessed when the site was cleared. This policy is said to have been at least 73 per cent successful.‡

Other English cities have erected municipal dwellings, some even municipal garden suburbs, as, for example, the White Hart Lane estate of London, and Blackley outside of Manchester. But in spite of occasional claims to the contrary, every one of these seems to be a losing proposition financially. In London,§ where the books show a profit, the expedient has been adopted of charging off a considerable part of the cost of the land. English cities, like American, pay high prices. Having bought and paid, London rated the land at a so-called housing value—that is, a value which would show a profit at the rents proposed. The balance disappeared from the housing accounts, though not from the taxes. Liverpool and Manchester, in recent statements at least, are more straightforward, but Liverpool claims that the loss is easily borne because it means reduced bills for police, sanitary inspection and hospitals, not to mention increased assets in the form of greater efficiency on the part of the tenants. Moreover, it must be borne in mind that the municipality usually comes forward to deal with the problem after it has become acute, and that its endeavor is to reach the poorest; though in this its intention is often better than its performance, as the new dwellings are frequently occupied by tenants comparatively well off.

Of course municipal housing has many

* Mr. Thomas Adams states that this is due not to its being a municipal scheme, but to bad management as a housing scheme—character of houses not suited to tenants, streets designed to open up the district charged against the housing, only a small part of the large estate developed, etc.

† Health Dept. Report of 1913, p. 301.

‡ Ibid. pp. 293, 294. Dwellings containing 78 tenements, in course of erection.

* Col. Kyffin-Taylor, M. P., to the International Conf., July, 1914.

† Report of the Housing Committee, July 25, 1913, p. 6.

‡ Health Dept. Report for 1913, p. 140.

§ This used to be a common expedient in other cities.



A REAR COURT IN BIRMINGHAM, ENGLAND, OPENED BY DEMOLISHING FRONT HOUSES

other consequences than those which are shown by financial reports. It is claimed, and vigorously denied, that it has discouraged private building enterprise and so is responsible in a measure for the lack of dwellings in many English cities. Other causes for the slackening of private enterprise are given; the higher cost of building, the greater return on investments in commercial and industrial undertakings, the unsettling effect of the Lloyd George reforms, etc.* Less debated are assertions that municipal housing has interfered with the proper development of the city because of regulations which require that the people dispossessed be rehoused on the same site, though that site might better be used for other purposes. These regulations are now somewhat relaxed.

Securing Larger Capital

Out of all this experience has come the conclusion that if the building of new houses is to be undertaken on a scale at all commensurate with the need, very much larger amounts of capital must be secured than have yet been available, and that to secure this capital two ways are open: first, to pay a fair market return, making the investment attractive because of its security and because of other advantages it offers

the investor—as in more attractive homes for co-partners; second, to get the capital from the public treasury. In this case too the return, though usually lower than on private capital, must be sufficient to meet the cost to the government, and the security must be good. Since the outbreak of the European war the government has lowered some of its safeguards for the purpose of relieving unemployment. But as the unemployment problem was soon temporarily solved by the needs of Kitchener's army, this has not yet resulted in much increased borrowing.

With capital derived chiefly from these two sources—the private investor and the public treasury—the two most conspicuous agencies for improved house-building, the garden city* and the co-partnership societies, have been working. Did space permit, a description should be given of the operations of the 1525 (1911) building societies, whose methods are similar to those of our own building and loan societies and whose capital amounts to £58,057,495, the Friendly Societies which lend money for homes on the installment plan, and some of the trade unions which aid their members in the same way. There should also be a mention of the Tenant Coöperators, Ltd., predecessor of the co-partnership societies

* See report of Land Inquiry Committee, V. 2, Chapt. IV.

* "Garden City," as here used, refers more accurately to the garden suburbs or villages.

and still existing, which in 1909 owned property valued at nearly £30,000. Both the garden city and the co-partnership societies limit the return upon the investment, thus cutting out the speculative element. One of the five essentials of a garden city, as stated by Mr. Ewart G. Culpin, Secretary of the Garden City and Town Planning Association, is "that the return on capital should be limited to, say, 5 per cent, any profit above that amount being applied to the estate itself for the benefit of the community."†

Government Loans

All of these agencies, municipal and private, borrow from the national treasury. The limitations imposed by the national government are such, however, that the municipalities, with a credit supported by the taxing power as well as by the value of the property involved, have often been able to get their money cheaper from other sources. Up to March 31, 1913, the amounts loaned by the government had been: *

To local authorities	\$12,368,219.48
To societies, corporations and private persons	12,072,302.22
Under Small Dwellings Acquisition Act.	1,007,973.81
Total	\$25,448,495.51

Even the national government grants better terms, both as regards rate of interest

† The Garden City Movement up to Date, 1914, p. 2.
 * Thirty-eighth Annual Report of the Public Works Loan Board, pp. 40, 70, 92.

and length of time for repayment, to municipalities than it does to private associations, with results shown in the following table, which is for the single year ending March 31, 1913:†

	Not Over 20 Yrs.	Over 20, but Not Over 30 Yrs.	
Loans to local authorities.	\$36,995.13	\$15,660.40	
Loans to associations, etc.	24,128.11	599,669.60	
	Over 50, but Not Over 80 Yrs.	Interest 3½ %	Interest 3¼ %
Loans to local authorities	\$1,462,392.98	\$1,515,048.57
Loans to as- sociations, etc.	228,253.45	623,797.70	\$228,253.45

The interest on government loans ranges all the way from 2¾ per cent to 4¼ per cent, by far the greater part at 3½ per cent and 3¼ per cent.*

There is a further limitation upon government loans. The money so secured must be used in the erection of workingmen's dwellings. A workingman is held to be one whose annual income does not exceed £160, approximately \$780, the exempt limit of the income tax. Toward the cost of such dwellings the government, after assuring itself that the building conforms to its standards, will advance 85 per cent.‡

† Ibid., pp. 9, 10.

* Thirty-eighth Annual Report of the Public Works Loan Board, pp. 96, 97.

‡ Since the outbreak of the war these figures have been changed, so that now the Government will, under certain conditions, advance practically the whole cost. But this is a war measure, and, as intimated before, has not been widely availed of as yet.



A GLIMPSE OF THE BEVINGTON STREET AREA, LIVERPOOL

Of the two kinds of societies under consideration, the garden city and the co-partnership,[†] the former use a much smaller proportion of public money than do the latter, as their houses tend to be of a more expensive character. For instance, in that part of the Hampstead Garden Suburb not occupied by the co-partnership society, rents rise as high as £110 a year, fairly close to the amount of the total income of the highest paid workingman. At two or three others they are still higher. Even the co-partnership societies draw the larger part of their tenants from the upper strata of the working class, yet their houses are inexpensive enough to permit of their drawing about two-thirds of their capital from the public treasury, according to a statement by Mr. T. Nicolson, Organizing Secretary of the Co-partnership Tenants, Ltd. For the rest they, like the garden city societies, draw upon the private investor, giving him, in return for his money, stock, debentures or mortgages.

Management of Co-partnership Societies

At the beginning the co-partnership societies proposed to finance their developments by selling two kinds of stock—loan stock at 4 per cent for the outside investor, share stock at 5 per cent for the tenant. The loan stock was, in fact, a preferred stock, entitled to its dividend before that on the share stock was paid, and to preference in case of liquidation. Necessarily it was from the proceeds of loan stock that the development was started, as share stock appeared only with the tenants who bought it as a condition of tenancy, making a small initial payment followed by regular weekly payments. The theory was that the tenants would in this way gradually retire all the loan stock and in the course of years become sole owners of the property through owning all the stock in the company. In accordance with this theory, control of the property was vested in the share stock. Some of the tenant-share stockholders soon found, however, that they had an immediate interest inimical to that of the outside loan stockholders. By reducing rents they deprived the outside investor of the interest on his money. To be sure, they also cut

off the interest on their own stock; but as this would have come out of their own pockets, they suffered the loss with composure.

This situation called for action. So, first, share stock was deprived of its control, and more lately share stock has been withdrawn. The present policy is to issue only one kind of stock for tenants and outside investors alike. Additional capital is obtained from the government, as before described, secured by mortgages and usually repayable in thirty equal annual installments, and from private investors who take either a mortgage or debentures.

Under this system, which is not very different from that of some American industrial enterprises which seek to have their employes purchase stock in the company, the co-partnership societies seem to be prospering. Control is vested in boards of management which the tenants, who are still minority stockholders, cannot control. Moreover, as the number of societies increased, a new organization, Co-partnership Tenants, Ltd., was formed, which binds many of them together and exercises a considerable measure of control over the affairs of the constituent societies—critics say that it dominates. It acts as their fiscal agent, securing additional capital when needed—and voting the stock; it acts as purchasing agent, and, by means of its ability to place large orders, reduces costs; it furnishes advice, legal and architectural, and renders other valuable services. As its desire is to constantly extend the movement, which means interesting new capital, its influence with the societies is constantly on the side of making investments safe and interest payments regular.

Of course the whole income of all these enterprises, municipal and private, is derived from rents. Only a negligible proportion is from stores or other business premises, so it may be taken that the return on all the capital invested is derived from the rent of dwellings and a great part from what are technically workingmen's dwellings. Consequently it is necessary to give at least brief consideration to the wages of the tenants and the amounts that may be charged for rent.

The Workingman's Wages

The highest annual wage of a workingman under the legal definition, is £160, or

[†] The distinction would not be obvious to the casual visitor, as the co-partnership societies are also creators of garden suburbs and frequently occupy a large proportion of the area of the best-known garden suburbs and villages.

\$780. From this it goes down to the wage of the Liverpool dock laborer and his counterparts in other cities. In 1905 the deputy surveyor of Liverpool stated that the average earnings of tenants in the municipal buildings did not exceed 15s. (\$3.65) a week. The dock laborer may earn 18s. a week, but his work is not regular. In 1899 Mr. B. Seeböhm Rowntree made a study of poverty in York which showed that the total family income of 6 per cent of the population was under 21s. a week, and that of 20.7 per cent was under 30s. a week—i. e., £78 a year. How many there were earning between £78 and £160 he did not think it necessary to inquire, as he lumped all with more than 30s. a week together. Last summer Mr. Rowntree said that wages had risen somewhat since 1899, but that the cost of living had kept pace. In London, carpenters and bricklayers, according to local informants, get 11d. per hour for a 54-hour week—i. e., £2 9s. 6d. per week, or £128 14s. a year, if they work every week in the year. This is somewhat below the £160 limit.*

The Workingman's Rent

As for rents, Mr. T. Nicolson, of the Co-partnership Tenants, Ltd., told me that a workingman could not pay more than 11s. a week. This would be 18 per cent of the £160 wage, a wage admittedly secured by only a few workingmen. The Land Inquiry Committee investigated rents in eighty-eight towns and published the following table: †

No. Rooms Per Dwelling	No. of Towns to Which Figures Refer	Predominant Range of Rents Weekly
		s. d. s. d.
2	31	2 6 3 9
3	57	3 9 5 0
4	80	4 6 5 9
5	71	5 6 6 6
6	29	6 9 8 0

Corresponding rents in London (Middle Zone) are 40 to 44 per cent higher.

The highest of these rents, even in London, scarcely touches 11s. What, then, is being done for those whose need has occasioned the present keen interest in better housing? In the Liverpool municipal tenements the rents range from 2s. 6d. for two rooms on the third floor, through 3s. 6d. for

two rooms on the ground floor to 4s. 6d. for three rooms and 5s. 6d. for four rooms on the ground floor. Four-room cottages in the Bevington Street area rent for 7s. In London, at the Bourne Estate municipal tenements, a three-room apartment rents for 9s. 6d. a week, a one-room apartment for 5s. Each apartment has a scullery and a water closet.* In the municipal garden suburbs rents are higher. London's White Hart Lane estate, for instance, has at present 885 cottages containing from three to five rooms each. These rent for from 6s. 6d. to 13s. a week, but there is only one row of the cheapest cottages. To the rent must be added carfare, which at workmen's fares is 3d. return before 7 A. M., 4d. return before 8 A. M., and 5d. return at later hours if one buys a weekly packet of tickets. At Blackley, the Manchester municipal suburb, rents are more moderate, 6s. 4d. to 7s. The annual income from Blackley is £405 18s. 8d., the annual deficit £1,476 7s. 1d.† But it should be added that the estate is not fully developed, so the city is paying interest on the purchase price of a large area of unused land.

On the private garden suburb and co-partnership estates rents should average higher than they do in municipal dwellings, for these estates must earn a profit. At Harborne, which perhaps comes the nearest to being a real workingmen's proposition, and which is fully developed, there are 500 houses. The cheapest of these rent for 4s. 6d. But there are only 60 houses which rent at 6s. or under; 100 rent at 6s. 9d. or under; 100 at 9s. or under; 200 at between 9s. and 12s., and 40 at above 12s. The most expensive houses rent at 15s. 6d. So only 60 really compete with the dwellings most used by the urban wage-earner. The fare from Harborne to Birmingham is 3d. one

* Of course all these figures deal with conditions before the war. According to newspaper dispatches, Liverpool dock laborers now get 35s. a week and a bonus besides.

† Report of the Land Inquiry Committee, 1914, Vol. 2, p. 40.

* The Bourne estate site cost £201,000, and the buildings cost £142,131, or a total of £343,131 for 1,320 rooms, which are let at average rents of 3/9 per room per week, producing £12,798 gross rental. Working expenses amount to £4,406 per annum, and loan charges, which are only £6,863 when charging simply the housing valuation of £44,000 for the site, ought to be £12,700 if the full cost of clearance and rehousing is reckoned. This means that to pay all outgoings and to make a strictly commercial profit the rents ought to be £17,106, or 5/- per room per week. Thus the already high rents are really subsidized to the extent of 1/3 per room per week. The net capital equivalent of this subsidy is £157,000, or nearly £60 for each person housed, and £120 for each dwelling provided. (Alderman W. Thompson, Housing Up to Date, 1907, p. 74.)

† Report of the City Treasurer for the Sanitary Committee for the year ending March 31, 1913, pp. ii and iii.

way, 5d. return, 16s. 3d. for a three-months' ticket and £1 12s. 6d. for a six-months' ticket. A commutation ticket adds 1s. 3d. per week to the rent. Moreover, at Harborne, as at other co-partnership and garden suburbs, rents are going up. A new tenant pays 3d. more per week than did his predecessor. This makes the total rent 7s. 2d. for a typical apartment in a two-family house, and if only one member of the family has to go into Birmingham each work-day. This apartment contains a living room, a scullery and two bedrooms. Its rent is equal to that of a six-room dwelling in town.

Similar comparison may be made for other garden and co-partnership suburbs. At Ealing, the pioneer co-partnership suburb, rents range from 6s. 6d. to 15s. per week, at Wavertree from 8s. to 9s. 6d. These rents do not include rates or taxes, which are paid by the tenants. A summary for all its affiliated estates is given in the 1913 annual report of Co-partnership Tenants, Ltd.

Number of houses and their rentals:

Below 6s. weekly.....	544
From 6s. and below 8s.....	731
From 8s. and below 10s.....	751
From 10s. and below 12s.....	657
From 12s. and below 15s.....	151
From 15s. and below 20s.....	110
Over £52 per annum	199

3,148

How many there are at the typical 4s. 6d. rental is not stated. Considerably less than one-half are below 8s.

Results of the Garden City and Co-partnership Movement

But it must not be assumed from these figures that the garden city and co-partnership movements are failing to have an important effect upon England's housing problem. Their contribution to the construction side is the most important and significant that has been made since attention was first turned to the need for building better types of dwellings. They have shown that it is possible to interest large amounts of capital on the basis of good security with a limited but fair return. They have

shown that not only the wealthy, but the wage-earner, can afford to live in an attractive single-family house amid delightful surroundings. They have in a measurable degree reduced the pressure of population in the center of the cities by removing thousands of people to the outskirts. In this way they have made it possible for those on a lower economic level to secure better houses so vacated, and they have strengthened the hands of the authorities who would impose higher standards for all dwellings, by showing that low standards are not necessary.

Of course the figures given above do not tell the whole story, even from the strictly financial point of view. Increased health and efficiency, fewer calls for the doctor, must be balanced against increased rental. The produce that may be raised in an allotment garden will go far to reduce, if it does not wipe out, the cost of transportation. The healthful recreation of the institute and the playing fields is less costly than that furnished by the saloon and the cheap amusement places. These are all factors to be considered in a financial statement.

The Future

Equally, of course, the business is still to a considerable degree experimental. Ealing was started as late as 1901, Hampstead Garden Suburb in 1907. But the promise certainly is good. There were in 1914 fifty-eight garden villages and suburbs. The co-partnership societies, counting only those affiliated with Co-partnership Tenants, Ltd., numbered fourteen. The theories of the founders have been modified as experience showed was necessary, but the basic principles remain. The evidence is all to the effect that not only better housing, but very good housing, can be provided for the well-paid wage-earner on a sound business basis. As for the poorly paid wage-earner, the unskilled and the casual, he still remains a problem. Even municipal dwellings run at a loss scarcely reach down to him. The questions England must ask itself are, whether he is self-supporting, and if not what can be done to make him so?



Municipal Clinics for School Children

By Edward F. Brown

Superintendent, Bureau of Welfare of School Children, New York Association for Improving the Condition of the Poor

Purpose and Scope of Health Care

THE health supervision of school children has become an important phase of child culture. The expenditure of municipal funds for this purpose is no longer looked upon as experimental, but as a means of preventing the distress and inefficiency which frequently result in adult life from the neglect of what are considered minor physical defects in childhood.

The aim of supervising the health of school children is topically summarized as follows:

1. Preventing the spread of contagious diseases
2. Indicating to parents the need for treatment
3. Removing physical defects of children whose parents are too poor to pay for private treatment
4. The rearing of a vigorous race
5. Rendering children more responsive to the educative process
6. Reducing inefficiency and waste due to physical incompetency
7. Protecting children from the apathy, ignorance and neglect of indifferent parents

Effective health care comprises, among other things:

1. Exclusion and isolation of children with contagious diseases
2. Discovery of physical defects
3. Follow-up work by nurses to remove defects
4. Educational work to promote health
5. Clinic facilities for free treatment of poor children

Strengthening the Weak Link

The efficiency of any scheme for the promotion of the health of school children is best measured by the number of treatments which follow the discovery of physical defects. The process of treatment is usually the weakest thread in the whole fabric of this work. In order that the maximum returns be secured from the investment of funds in medical school inspection, it is necessary that a vigorous campaign be directed against this undeveloped process to strengthen and make it more effective.

With our growing knowledge of childhood and the adaptation of school buildings to the social as well as the educational needs

of the community, we shall soon realize that in the construction of the school consideration should be given to providing quarters for inspection and curative work.

The ideal clinic is divided into two distinct divisions; the inspection clinic, where children are sent from the classroom to the physician for examination, and the treatment clinic, where the physical defects discovered by the physician are treated.

The Inspection Clinic

The organization of an inspection clinic does not necessarily change the system of making routine examinations in the classroom. It is organized mainly to care for the children who do not come within the scope of the routine inspection. It is designed to give the physician an opportunity to make a careful diagnosis in a place constructed for that purpose. Sir George Newman, chief medical officer of the Department of Education of London, thus tersely describes the function of the inspection clinic:

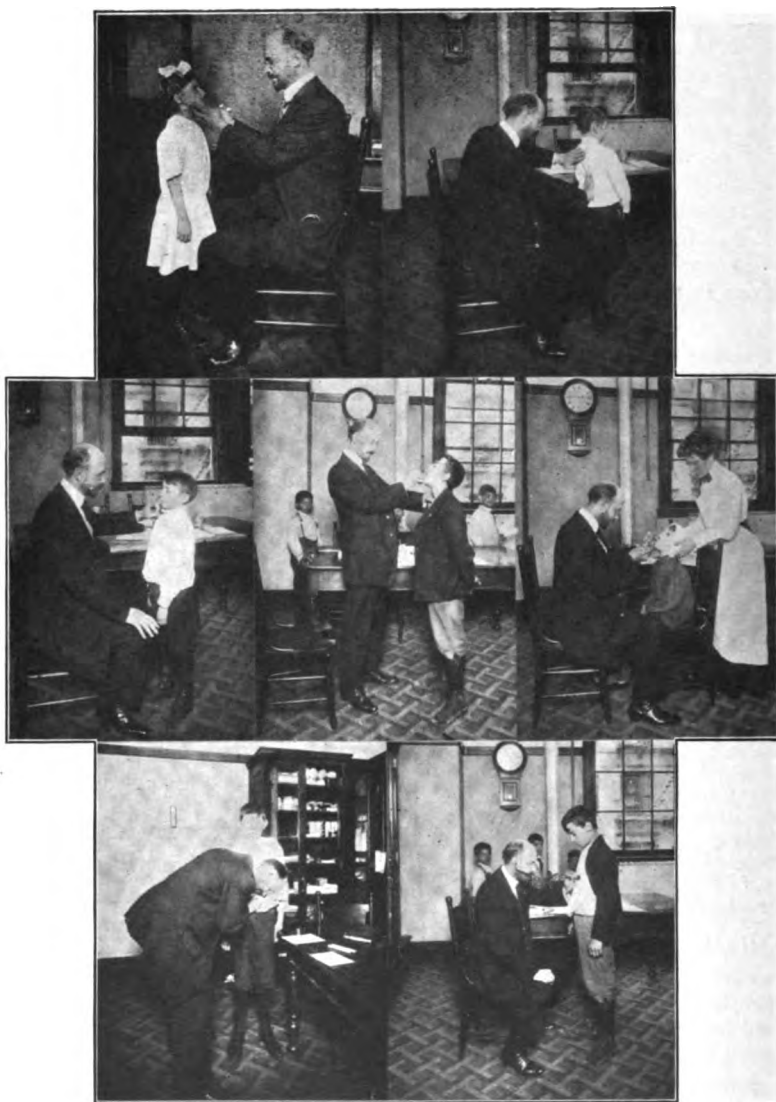
1. The further and fuller examination of children referred as a result of medical inspection in the school
2. The examination of children referred in regard to fitness to attend school, or to undertake physical exercises, swimming, school journeys, etc.
3. The examination of candidates for admission to special schools—schools for the deaf, blind, mentally and physically defective, open-air schools, etc.
4. The supervision of children suffering from such conditions as uncleanness and ringworm
5. The periodical supervision of all cases of phthisis
6. The inspection of children who have suffered from infectious and contagious diseases, and of "contacts" prior to their return to school.

Many rooms which are assigned to medical inspection do not lend themselves to efficient work. We have known of cases where refraction work was done in rooms ill suited for that purpose, which naturally impaired the efficiency of the test where it did not actually cause an erroneous refraction to be made.

The inspection clinic soon becomes a clearing house to which children who are

not in a physically fit condition to go to school are referred and in that way placed on the right track to becoming normal. The inspection clinic used to its fullest capacity requires full time medical service. Children

such a system has a political educational advantage in that it familiarizes the citizen with the work which is being done for the health of his child and puts him in a position to be able to judge whether or not to



MEDICAL INSPECTION OF SCHOOL CHILDREN

who are registered in the school for the first time should be brought here by their parents, who should be urged to stay throughout the whole examination in order that the benefit of the medical advice may be turned to good use. Aside from its real purpose,

support the expenditure of municipal funds for such work. The clinic fully developed might easily become a local health center where mothers could bring their children for professional advice. Adjoining the inspection clinic there should be



DENTAL CLINIC FOR SCHOOL CHILDREN



EXAMINATION AND OPERATING ROOM FOR NOSE AND THROAT CASES
IN SCHOOL CHILDREN'S CLINIC

This room and the dental clinic shown above are maintained by the Division of Child Hygiene of the
New York Department of Health

A Treatment Clinic

Treatment clinics should have facilities for the treatment of all afflictions of school children which require no operative or bed treatment. Considered generally there should be:

1. A General Medical Service: To treat minor ailments, cases of accident and emergency cases. Here treatment and instruction in cleaning the head, eyes, ears, mouth, etc., might be given.
2. Ophthalmic Division: Errors of refraction. Diseases of the eye.
3. Orthopædic Department: To correct and treat orthopædic defects (non-operative).
4. The operative department for nose and throat work should be located, if possible, adjacent to the school.
5. Dental Clinic.

Social Aspects of Treatment Schemes

Clinics for school children in American cities have been organized almost exclusively for children of indigent parents. In England some clinics are organized on a pay or partial pay basis. Parents pay usually a nominal sum for the treatment given.

There are two strongly divided camps in which the subject of free treatment is being discussed. One claims that:

- To provide free clinical treatment:
- (a) Pauperizes the client.
 - (b) Impairs parental responsibility.
 - (c) Interferes with the legitimate earnings of private practitioners.

The other contention is that:

- To fail to provide treatment for the needy:
- (a) Weakens individuals to a point of being unable to resist disease.
 - (b) Impairs the learning capacity of the child.
 - (c) Induces social inefficiency through physical incompetency.
 - (d) A physically decadent group in any nation is a weak social and political defense.

- (e) Provides the best and most economical means of reinspection of children who are reported defective physically.

- (f) Clinics serve to link the parent, teacher, doctor and child more strongly to a common purpose.

- (g) Serves as a social laboratory for the study of the child.

Capitalizing Disease and Socializing Health

It is often asserted that movements such as this have a tendency to lessen parental responsibility. The people who argue this often fail to realize that usually there is no responsible parent in the case of the clinic child. The parent has cast aside his responsibility or is unable to stand up under it, and it becomes the duty of the state to step in to insure the child against the neglect of its physical welfare. There is essentially nothing more radical in this movement than in the free facilities for education or free books or police or fire protection. To the exceptional physician who looks upon all this as a means of destroying the emoluments of his practice, we say emphatically that disease is to be wiped out wherever found and not to be considered as a means of making personal profit.

Assuredly this is a step in the direction of ultimately socializing the doctor and the dentist, just as education is socialized. No one will complain that the private preserve of profit of the educator has been invaded. It has been enlarged and in an organized way is doing a work which no private enterprise could parallel. It will be a great step forward when the state will employ the medical and dental professions to prevent disease instead of subsisting on its cure.



Proclaiming Disease Prevention

By D. O. Decker

Civic Commissioner, Commerce Club of St. Joseph, Mo.

THE Commerce Club of St. Joseph, Mo., recently held a city exhibit devoted solely to disease-prevention publicity. Two adjoining down-town stores, vacant at the time, were secured. In one, moving picture films on health subjects were shown; the other was filled with booths and exhibit material. The low per capita disease-prevention expenditure of St. Joseph—9 cents—as compared with expenditures of other cities, was vividly displayed in chart form.

Upon entering the door the visitor was confronted with a chart, seemingly written either in Greek or in ancient Chaldean. The lettering was in red traced over with a few inconspicuous green lines. Just as the visitor was about to pass on and blame his school curriculum for not including this particular language, a suggestion was noted that he look through a little blue megaphone which was furnished him and see if it improved his linguistic ability. It did. The megaphone contained a red glass, which made invisible all the red upon the chart,

but brought out in black the green lines. The message of the chart, "Half our deaths under 40 years of age are preventable," was forcibly driven home in this way.

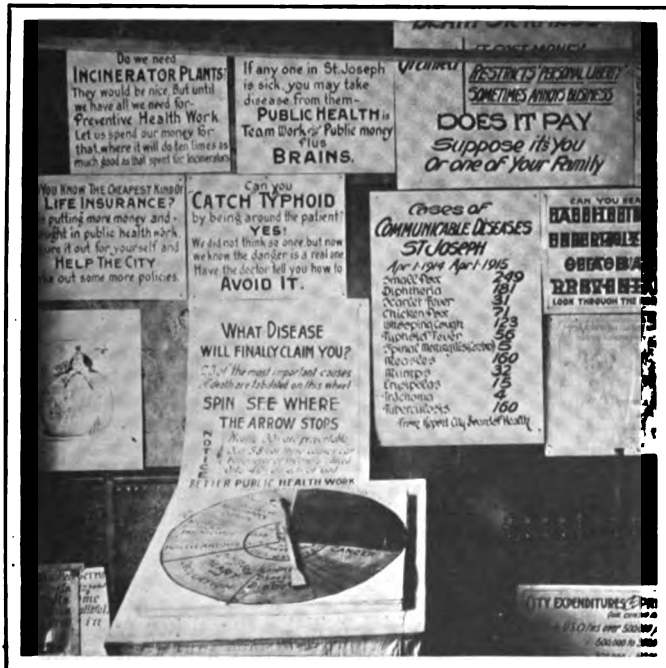
Besides outside exhibits loaned by the Red Cross, the Sage Foundation, Springfield Survey, Topeka Survey, etc., there were many locally prepared exhibits.

Mothers who were ignorant of the best ways to care for the baby found charts which gave them proper advice about the baby's food. Homemade ice chests, baby layettes and flyproof cribs were shown and the cost of construction given. Babies' enemies, in the shape of bananas, beer, soothing syrup, etc., were shown in one group, and a string connected them with a garbage pail bearing the legend, "This is where they belong." Some of the babies' friends were also shown, including the equipment so familiar to welfare workers.

The local Visiting Nurses' Association explained its work by charts, and an attendant nurse gave practical hints for every-day hygiene and preventive measures.

One booth was entirely filled with exhibits from the public schools. A particular feature of this exhibit was the pictures and charts showing the effect of adenoids upon health, and, in comparison, the rapid recovery after their removal. It is interesting to note that a number of operations for adenoids have since been performed, a direct result of the suggestions of the exhibit.

The local water company showed the daily bacteriological tests made to protect the city water supply, and explained why hypochloride of lime was used to make safe the water which already appeared pure.



TEACHING THE LESSON OF PREVENTABLE DISEASE



THE BABY-SAVING EXHIBIT

The Metropolitan Life Insurance Company gave an excellent exhibit, which was introduced by a sign reading, "Is Public Health Work a Fad? If it were, would this practical business corporation make such extensive investments in preventive health work?" An unhygienic and a hygienic room were displayed side by side; the former was filled with filth and germ-catching rags and curtains. A red ribbon leading from each unhygienic object to a placard on the wall explained why it was unhealthful.

A feature which was always surrounded by a crowd was an arrow spun upon a circular table divided into segments representing various common diseases. When the spun arrow stopped upon a given segment, one's attention was called to the disease indicated there, and he learned what were his chances for death from this source. The lesson taught was the fact that a large per cent of the diseases which threaten us are preventable, and that better preventive work in St. Joseph would practically eliminate them. The visitor whose arrow indicated tuberculosis remembered that the St. Joseph toll from this disease was 83 during the past year, and that he was interested in stamping out the Great White Plague.

Exhibits were given showing the relation between teeth and health. One placard stated that 40 per cent of school absences were caused directly or indirectly from defective oral hygiene.

The Public Library and the Welfare Board gave separate exhibits. The latter showed the city's methods in permanently relieving poverty and the conditions which cause it. St. Joseph is one of the few cities which spends its county and city poor relief fund through a relief agency, superintended by a trained secretary. The case-records and the system of the Board were given by charts and were shown to be on a par with the most advanced methods used by any of the private associated charities in other cities.

Picture films showed the eradication of the bubonic plague, the danger of the fly, cases and methods of prevention of tuberculosis, methods of fire prevention and prevention of accidents in factory work. This part of the exhibit was always well filled.

It was estimated that about 15,000 of the total population of 80,000 attended the exhibit. Its effects are already noticeable in the increased demand for preventive health work in the city, and it has laid the foundation for a future program.

One advertising feature which further emphasized the preventability of disease was a \$10 prize to the person making the closest estimate of the annual economic cost of preventable disease in the city. This prize has not been awarded as yet, but it is thought that the committee will agree on a sum which will be surprising to the uninformed, particularly when it is compared with the small amount spent in prevention.

News and Ideas for Commercial and Civic Organizations

New Bulletins

AMARILLO, TEX.—*Aggressive Amarillo*. Published monthly by the Amarillo Board of City Development.

BIRMINGHAM, ALA.—*The Birmingham Magazine*. The official organ of The Business Men's League, The City of Birmingham and Ad Men's Club. Published monthly by the C. W. Roberts Company.

LAFAYETTE, IND.—*The Bulletin*. Published semi-monthly by the Chamber of Commerce.

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Eau Claire's White Way

EAU CLAIRE, WIS.—The accompanying illustration shows the attractive "white way" lighting system which was recently installed in Eau Claire through the efforts

of the Civic and Commerce Association. The company which installed the system removed all the wooden poles from the streets specified for the "white way," and no poles are now allowed in those streets except the combination trolley and electric lighting posts. Each pole carries only the two wires necessary for the lighting system and the trolley feeder, and no wires are allowed to be run from these poles to the buildings for any purpose.

There is a law in Wisconsin which provides that when two-thirds of the property-owners of each block in the section of any municipality in the state in which it is desired to establish a lighting system have consented to the installation of such lighting system, the common council or village board is empowered to provide the



THE EAU CLAIRE WHITE WAY

lighting by ordinance and contract, the remainder of the property owners to be forced into the arrangement should they be opposed to it. The statute further provides that the portion of the installation and maintenance of such lighting system to be paid by such property owners shall not be less than two-thirds of the total cost thereof. It was this law which made a "white way" possible in Eau Claire.

The system was installed at small expense. By combining the lamp post and trolley wire stay, an additional post is not only dispensed with, but the cost of the lamp post is considerably lessened. The total cost of installation was \$32.13 per post, the abutting property owners assuming two-thirds of this cost. The cost of maintenance and operation was figured at \$21.45 per post per year, and the cost per front foot to the property owners at the two-thirds rate, \$0.215 per year. The operation cost is computed at the rate of one-half cent per kilowatt hour for current burned. To this was added the necessary charge for maintenance and upkeep, such as yearly painting of the poles, cleaning the globes, furnishing and replacing lamps and globes.

RICHARD F. KAISER,
Secretary, Civic and Commerce Association.



A Civic Song Contest

GRAND RAPIDS, MICH.—The Civic Music Committee of the Grand Rapids Association of Commerce announces a contest for a Grand Rapids civic song and invites contributions of verses to be passed on by a board of judges. A cash prize of \$50 will be awarded to the person whose poem is accepted as best adapted to the purpose.

What a national or state song means to the larger sphere, a civic song should mean to a city. Grand Rapids would raise its thousands of voices in tuneful accord on many occasions if a civic song were adopted which possessed verses depicting the historical romance, beauty, sterling type of citizenship, high ideals and ambitions of the city, the song to be set to music of such harmony as to at once captivate and to endure through all time.

Details in regard to the contest may be obtained from the Grand Rapids Association of Commerce.

W. K. PLUMB,
Secretary, Association of Commerce.

Two Junior Chambers of Commerce

NEW ORLEANS, LA.—A Young Men's Branch of the New Orleans Association of Commerce has recently been formed. This was done wholly upon the initiative of a group of young business men in the city, and not from any suggestion by the senior body. These young men felt that there was a gap in the public-spirited business community by reason of the lack of an effective and organized participation by the younger men in the work of civic upbuilding, and they petitioned the board of directors of the Association of Commerce to authorize the organization of a young men's branch. Their request met with ready approval, and the idea proved so popular that nearly 200 members of the new auxiliary were present at the organization meeting in July. The membership is now over 300 without any regular membership campaign having been carried on. Practically every commercial and professional group in the city is represented.

The object of the organization is to provide a means for acquainting the young men of New Orleans with civic questions and to afford a medium for the expression of their opinions on matters affecting the younger business element. Membership is open to all white men between the ages of 18 and 30 who are not in control of a commercial enterprise that is eligible for membership in the senior organization.

Control is vested in an executive committee of 21 members, whose chairman is the presiding officer of the association. Its committee organization is the same as that of the senior body, with the addition of such committees as are needed to handle matters coming more especially within the purview of the younger men. To give the members training in handling the practical problems which come before a commercial association, it is proposed to have a few members of each committee attend all meetings of the corresponding committee of the Association of Commerce.

E. E. JUDD,
Commercial Agent, Bureau of Foreign and Domestic
Commerce, in *Commerce Reports*.



COLUMBUS, IND.—The Boys' Auxiliary of the Columbus Chamber of Commerce is a small organization, about 22 in number, but the boys have gone about their work in great

earnest. They have elected their president, vice-president, directors and secretary, and their meetings are conducted as seriously as the deliberations of a large business corporation.

The boys devoted their attention during the summer to the subject of alley sanitation. There were six committees sent out on this investigation, and each member of the committee, in crossing an alley, regardless where he happened to be, would jot down conditions as he found them. The result of the survey was a surprise even to the grown-ups.

The Columbus Chamber has been holding lectures along the lines of work in which the boys are interested, and plans to secure for the coming season the best speakers obtainable on these subjects. The Chamber is also planning a campaign through which it is hoped to build up an organization of at least 100 boys.

J. H. HOUK,

Managing Secretary, Columbus Chamber of Commerce.

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Quincy Chamber in its Own Building

QUINCY, ILL.—The Quincy Chamber of Commerce is now located in its own build-

ing, recently completed, a view of which is shown in the accompanying illustration. The structure is of pressed brick, three stories above the basement. On the first floor are the directors' room, the various offices of the building department, a garment room, and a lounging room. On the second floor is the convention and banquet hall, a rest room for visiting women and children, and the office of the county farm adviser. The third floor will be used entirely for the purpose of exhibiting Quincy's manufactured products.

The nucleus of a building fund was formed several years ago through a donation of \$1,000 by a retired merchant of Quincy. The same donor offered a few months ago to purchase and donate a site for a Chamber of Commerce building if the Chamber would finance the erection of the structure. The offer was accepted. A fund for carrying on the industrial work of the Chamber had previously been raised by subscription, and it was decided to use a portion of the industrial fund to help finance the project. The use of this fund, however, is an investment, and all the net revenues from the building will be turned into the industrial fund.

C. F. PERRY,

Secretary, Quincy Chamber of Commerce.

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Two Meetings of Secretaries

PROVIDENCE, R. I.—The Providence Chamber of Commerce believed that the commercial executives of Rhode Island should be organized into a strong association in order to advance the many enterprises already on foot for the good of the state. It therefore promoted the formation of the Rhode Island Association of Commercial Executives, which took place on the morning of September 3, ten Rhode Island secretaries being present. The secretary of the Providence Chamber was elected president.



CHAMBER OF COMMERCE, QUINCY, ILL.

The meeting of the Rhode Island secretaries was followed in the afternoon by the annual meeting of the New England Association of Commercial Executives. This took the form of a cruise, participated in by both associations, on the waters of the Providence and Seekonk Rivers and on Narragansett Bay, on the United States Power Yacht "Monomy," as the guests of Col. John Millis of Newport. Col. Millis is the United States engineer in charge of the work being carried on by the Federal Government in those waters. He accompanied the party on the trip and explained the large water-way improvements already completed and in process of construction by the Federal Government, the state of Rhode Island and the city of Providence. Following the cruise an old-fashioned clam-bake was indulged in at Rocky Point.

CLARENCE A. COTTON,
Secretary, The Providence Chamber of Commerce.

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A System of Credit Service

JAMESTOWN, N. Y.—The Retail Division of the Jamestown Board of Commerce has recently created a retail credit bureau on a broad and systematic basis. The service comprises the publication of a complete directory of the credit customers of Chautauqua County, together with the combined experience of several hundred merchants. The book is, in effect, a composite ledger, and the merchant consulting it is enabled to obtain a glimpse into the ledgers of every other merchant and see at once how each customer pays his accounts with other dealers. The book, which will contain nearly 25,000 names, will be issued annually.

The service also provides for a weekly bulletin of legal information, such as suits, judgments, garnishments, mortgages, etc., which can in any way affect credits. A monthly bulletin gives the names of all families moving to the city, away from the city, or from place to place within the city. A card index will be kept in the office which will contain all the changes from day to day, thus affording the subscriber the privi-

lege of being able to obtain the latest information regarding a customer at all times.

Five dollars is charged for the loan of the credit book and \$1 monthly for the service. At the end of the year a rebate of \$5 is made to those subscribers who are members of the Board of Commerce, which makes the net cost to members \$12 annually.

F. C. BUTLER,
Secretary, Jamestown Board of Commerce.

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A Report on Vocational Education

PHILADELPHIA, PA.—An investigation has been completed by the Public Education Association of Philadelphia which promises to be a great aid to the advocates of vocational training in that city. The Association has collected data in regard to vocational courses taught in all of the schools—public, private, and philanthropic—in the vicinity, and the results have been published in a pamphlet under the title, "A Survey of Opportunities for Vocational Education in and near Philadelphia."

The scope of the investigation includes industrial, commercial, and professional education, and 180 institutions were covered by the survey. The material has been carefully classified and analyzed, and arranged in chart form, so that the student desiring information in regard to a particular course can, at a glance, compare the requirements, the tuition fees and the time required in the various institutions offering such a course.

A carefully arranged index at the back of the volume lists over 250 subjects having a vocational bearing taught in the institutions included, with references to the pages on which more detailed information regarding them may be found.

Copies of the report of the survey may be obtained from the Public Education Association, 1015 Witherspoon Building, Philadelphia. The price is 25 cents.

PAUL N. FURMAN,
Secretary, the Industrial and Technical Education
Conference of the Public Education Association.



For Monthly Reports and Yearly Bills*

GRANTED that so far as members are concerned, the organization's accomplishments are its dividends and must be exploited to the greatest possible advantage if general interest is to be retained; granted that the annual report, in which committee work is described in considerable detail and is used only as a reference work; granted that some account of an organization's activities is desirable, that with few exceptions the news in a report is read only when fresh, why should not the activities of the organization be reported monthly? Public interest is a great deal more liable to absorb then. Accomplishments can be related more elaborately, so that the yearly report need be only the briefest review of the larger work, for detail of which reference is made to the various monthly reports; but with no reference to organization routine or to those defensive arguments and appeals for support on which the occasional report lingers as if in apology for the secretary's employment or even the organization's existence.

The monthly report system has this greater advantage, in the opinion of one eastern member of the Association:

"As a general proposition we have no standards by which we measure our own work or the work of the organization. It is this entire absence of standard, plus the absence of comparative statements, necessarily made public at short intervals, that are at the bottom of most organizations' inefficiency. It is mighty hard to induce us to use devices that measure our daily work. The unavoidable obligation to make frequent comparative reports works wonders, I believe."

In committee reports of the best organizations, I find a full committee list put right out in front. One organization uses the chairman's photograph with each committee report, while several put the full committee list in the margin opposite the text. As a means of extending committee work, of making acceptance of committee appointments more certain and of giving committeemen the feeling of participation in the affairs of the organization, this method is plainly good business.

Pictorial forms to supplement reports are in favor. These are splendid for rapid com-

prehension, usually to explain how the work and income of the organization are apportioned. Parallel columns may be used, the planks in the platform being the debit column, while in the other are credited the things on the program done and those done which were not on the program. In this plan the sentences are short and pointed. This is in fact a real trial balance.

In the reports of the organizations which are generally regarded as most successful, the name of the secretary never appears except when necessary. The accomplishments are always those of the committees and directors.

Bills for dues in different commercial organizations are mailed out in a great variety of intervals. The question is more important than is customarily supposed. I believe there is a great advantage in having bills mailed out yearly and no oftener. I heard an experienced secretary once say that "A bill for dues is a psychological invitation to resign." At least it will be agreed to, I believe, that the receipt of a bill puts a man on the defensive: it is gently, but actually, asking him to sign a new contract. A man usually feels as if he is depriving himself if he doesn't take this occasion to consider what the organization has done during the period since his last payment that displeased him or what it failed to do that he strongly favored.

Let us take the case of an organization that bills its members four times a year, and let us assume that the typical member is not typical and that he pays his dues for each quarter promptly and without a second notice. At the end of a year he has received at least four bills, for, let us say, \$6.25. he has made out four checks for \$6.25 and has received four receipts for \$6.25. One organization's experience actually proves that men feel that their financial support of the organization is greater than if once a year they got a bill and signed a check for \$25. The average man who is billed four times a year (and this is one-half as true of the semi-annual plan) will receive a bill for the next period so soon after receiving the receipt for the previous period, even if he pays promptly, that a feeling of annoyance results. This statement is not meant to apply to the more difficult collections. There is the additional advantage of simpler bookkeeping in favor of the annual plan.

* From a paper on the Technique of Association Administration, presented by Robert Wadsworth, Secretary Youngstown (Ohio) Chamber of Commerce, at the Annual Convention of the National Association of Commercial Organization Secretaries, in St. Louis, September, 1915.

Training the Commercial Organization Secretary

By Charles A. Beard

Supervisor of the Training School for Public Service, New York Bureau of Municipal Research

THERE was a time when it was believed that the secretary of the chamber of commerce did his full duty if he located factories, drew trade and sang the praises of his city; in other words, it was once thought that the secretary should be merely a promoter of industrial undertakings. His success was measured by the number of new smoke stacks he added to the city. He was not regarded by the community as a leader in any civic enterprise. On the contrary, he too frequently felt contempt for the local politicians, and even if he took an interest in the city government he was restrained from any important action by the fear of becoming involved in "politics."

Even though the civic secretary aims to do nothing but protect business against government regulation and interference, necessity compels him to give attention to complicated problems of legislation and administration. If his sole interest is the promotion of industries, he cannot ignore the fact that the government of his city is of vital concern to his enterprise. If he has not already done so, he will soon learn that high-grade manufacturers do not want to build their plants in badly governed cities, where the physical and social conditions are repulsive and such as to lower the standards of life for their employees. In seeking, therefore, to increase the number of industries in his city, the secretary must take into account problems of transportation, the layout and maintenance of streets, housing and sanitation, education and recreation, finance and budget-making, fire and police protection, and all the other branches of city government which involve the physical and moral welfare of the citizens.

In fact, in many cities the first task of a new secretary of the commercial organization is not to capture more factories, but to improve the living conditions—if for no other reason than to make the city attractive to promoters looking for new factory sites. In some places it is high taxation and wasteful municipal finance that stir the organization to an interest in the local government; in other places it is a particularly

knotty transportation problem; again it is an appalling death rate that gives the local "booster" pause. Whatever the source of the original inspiration, it is clear that commercial organizations are moving from a spasmodic effort in the improvement of local government to a broad and well-planned scheme of civic work.

The work so well begun is not likely to come to a stop. Rather does it seem established beyond question that our commercial organizations will give increasing attention to every vital problem of government in its relation to community welfare. Indeed, it is a conservative estimate that the organization secretary, unless he has a special bureau of municipal research under his control, must devote fully half of his time and energy to civic affairs. Particularly is this true in the cities of minor rank, where there are no citizens' associations working on municipal programs. Even in the larger cities well supplied with such associations, the commercial secretary must view many of the problems of government from the angle of the particular interest which he represents.

Under these circumstances, therefore, it would seem superfluous to say that the organization secretary must be broadly trained in economics, finance, municipal administration and social science, as well as in many branches of commerce and industry. Moreover, the commercial secretary should supplement his academic and business training by practical contact with the broad problems of municipal government, such as budget-making, finance, transportation, municipal utilities, public health and safety, education and vocational schools. While there are many kinds of experience which will add to the power and efficiency of the commercial secretary, it seems that at the present hour there is nothing more vital and indispensable than discipline in municipal research and investigation.

In view of this new turn in the affairs of commercial organizations, the Training School for Public Service, conducted by the Bureau of Municipal Research in New York City, has made special arrangements

to offer to secretaries already in the work or to young men contemplating a career in that field, practical contact with those problems of public administration which the civic committees of commercial organizations are most likely to encounter. In other words, the School recognizes the rôle which the enlightened secretary must play in the public affairs of his community, and regards

coöperation in training organization secretaries as coming legitimately within the scope of its activities. The authorities of the School take this action on the assumption that a career as director of an organization so vitally concerned in civic matters is worthy of the best talent and that it should attract the highest type of trained thinkers and organizers.

Letters to the Editor

The Duty of Civic Organizations to Emphasize Individual Responsibility in Municipal Sanitation

To the Editor of THE AMERICAN CITY:

The development of effective methods of sanitation is greatly hindered by the failure on the part of people in general to appreciate the individual's duty in this regard. While one's duty to one's neighbor was, a long time ago, defined in accordance with the Golden Rule, no special effort has yet been made to define this duty as regards sanitation. Boards of health and sanitary experts are supposed to attend to this matter, and paternal government is expected to obtain the necessary results by some method which will relieve the individual of any burden.

So general is the idea of governmental duty as against individual obligation, that the sanitary officers of government, while bespeaking the coöperation of those served, expend a great deal of time and energy in attempts to so regulate the details of sanitary operations as to free the individual, as much as possible, from responsibility or participation in effective work.

No one more fully realizes this tendency, and its adverse effect upon desired results, than the municipal officer whose duty it is to clean the streets and remove the household wastes. This official finds at the outset that he is expected to obtain results and to give service, in spite of careless actions on the part of the public generally, and with due regard to individual comfort. The taxpayers pay him well for his services, and there their duty ceases; it is for him to overcome all obstacles and to give efficient and economical service and to maintain conditions of public health and comfort.

Formerly it was considered the duty of the individual to see that the highway in front of his premises was cleaned, periodically at least; and we find in the earlier records of New York City that the city fathers ordered the householders to clean their streets upon a certain day or to pay a specified sum to an individual who agreed to do the work for them.

While not set forth in the record, we have reason to believe that the public was more easily satisfied with less efficient results than it is at present.

The collection and disposition of those wastes defined as ashes, rubbish and garbage have but recently been considered a municipal duty, and even to-day in many cities the individual has to arrange for that service at his own expense.

Justice Cullen, in an able opinion, says:

"The state, especially of late years, with advancing civilization and with increase in the knowledge of hygiene, has in many respects raised the sanitary conditions and requirements in accordance with which it requires its citizens to live; but it has not assumed to furnish from the public funds the cost entailed by these sanitary rules with which it compels the citizens, by threatened penalties, to comply. . . . Indeed, the distinguishing feature that characterizes such services as municipal is that they are primarily the work of individual citizens, not assumed by the government throughout the state at large, but rendered necessary to be performed by municipalities on account of the condition of life peculiar to such municipalities."

The distinguished judge in this opinion, while discussing a different phase of this question from that here considered, points out exactly the legal status of the individual in no uncertain terms. The reiterated claim of the rights of a taxpayer is here denied, and by inference it is shown that only that part of the work which it is practically impossible for the individual to perform is as-

sumed by the municipality, and up to that point the individual is to do his part.

Public officials who seek popularity by endeavoring to arrange service merely to relieve the individual are not only exceeding their official limitations, but are fostering a spirit which will return in many forms to mock them when they attempt to enforce proper regulations.

Civic betterment associations devote most of their investigations and criticisms to the acts of public officials, while it would often be more profitable if the investigation and criticism were directed against the failure of the individual citizen to do his share. Of course such a radical change of method would be found unpopular and would limit the membership of such an association, but in the end better conditions would be fostered and less ground for complaint would exist.

Streets are set apart for the general benefit rather than for the exclusive use of the abutting resident. For that reason there is some excuse for making the maintenance of the pavement and the cost of cleaning a charge upon the municipality at large; but that argument does not include the right of the individual to increase the litter by his carelessness. This item of careless littering is estimated to cost the city of New York some \$400,000 per annum—a needless expense without compensating benefit.

The duty of the individual is evident in this matter, and ordinances prescribing penalties for violations of the rules governing the littering of the streets should be strictly drawn and sternly enforced.

While the individual is not equipped for the furnishing of transportation of the household wastes to their place of final disposition, he should not be relieved from providing proper receptacles for their deposit at the premises, nor from so placing them for the collector as to conserve an economical and efficient removal. The complainant against uncovered vehicles for transporting the wastes through the streets very frequently furnishes improper receptacles and uncovered garbage cans.

There is a tinge of humor in the action of one who purchases land in the vicinity of the place of final disposition of the wastes—doing so because he gets a bargain owing to the location being adjacent to this municipal operation—and then demands that the

nuisance created by this offensive trade be abated in order that he may profit by the improvement and sale of his property. The person so involved seldom evidences an appreciation of the humor, however.

In the matter of "swat the fly" campaigns, we find the point at issue lost sight of. We measure the success of these movements by the quarts of insects destroyed and issue statistics as to the number of unborn pests so denied an existence, as though the fly were the offender and his demise the end to be attained; whereas the fact is that the fly could not exist without filth to feed upon. The fly does not originate the filth; on the contrary, the presence of flies is an indication that filth is accumulating. This accumulation is caused by individual carelessness—and the "swat" should be reserved for this offender rather than for the fly. Such campaigns violate hygienic laws, in that they treat a symptom rather than the disease.

We have, then, the plainly stated necessity, based on moral and legal obligation, of individual coöperation with official endeavor in improving the sanitary conditions within a municipality, and the plain duty of the administrative officials is to demand such coöperation instead of requesting it. Failure to make this demand, while it temporarily benefits the officials from a political popularity standpoint, still greatly retards sanitary progress and results in unhealthful and uncomfortable conditions of municipal life.

Here, too, the individual official must subordinate his desire for popularity to the general welfare, and add as his donation to the cause of coöperation a sacrifice of personal political ambition.

To attain the end sought in the promotion of betterment of sanitary conditions, it is not necessary to add to the already large number of associations for social uplift; but there should be an amendment made to the constitution or by-laws of existing organizations setting forth the necessity of individual actions in matters of common interest, pledging the individuals to unremitting performance of this duty and providing for the excommunication of the unfaithful person who neglects to do his share at all times.

EDWARD D. VERY,
Consulting Engineer.

New York, August 4, 1915.

Property Owners to Own Water Meters

To the Editor of THE AMERICAN CITY:

The recent articles in THE AMERICAN CITY in reference to the ownership of water meters have been very interesting and should be considered by everyone using meters or contemplating their installation. Our experience in Lancaster, Pa., has been that property owners should own their own meters; then there is no trouble in the collection of meter repair bills after the owner knows the nature of the repair. It is a hard matter to collect repair bills for meters that are owned by the municipality, as the property owners use the argument that they pay taxes and that it should be the duty of the city to keep up the repairs.

We have about 5,300 water meters in service. When any of these meters is out of service we send a duplex mailing card to the property owner which calls his attention to the fact that his meter is out of order and that it will be taken out for repairs within a certain time. If he wants to know what the trouble is, he calls at the office; but the card states that the reading of his meter at this date is the same as it was three months previous, which shows that something is wrong with the meter. He signs the return card, which is filed, and we proceed to take out the meter and test it. We charge for the actual material used in repairing the meter, making no charge for labor, and with our twenty-five years' experience with water meters, we can always collect the bill. When new meters are placed, we make no charge for repairs within one year unless the meter is damaged by hot water or frost.

We are placing about 500 meters a year, all of them purchased by the property owners, who are informed at the time of purchase that the meters belong to them and that they must keep up the repairs.

The city stands back of the meters and the manufacturer stands back of the city, and in no one case has either been called on to make good that responsibility. We make a charge of \$8 for a 5/8-inch meter, and the owner installs it at his expense subject to the rules and inspection of the Department of Water. The city buys only standard meters, factory tested and guaranteed. After their receipt the Department makes a 10-foot test on every meter, which must register 100 per cent before being sold.

We make a test of all meters in service every two years, meters from 1 inch up being read every month. Bills on all meters are rendered every three months. It is to the advantage of water consumers to use water meters, as the schedule rates on any ordinary property with all conveniences amount to about \$19, while the minimum rate with a meter is but \$10. The property owner more than saves the price of the meter by its installation, and the city saves the waste of water which our inspection system shows to occur in numerous cases where meters are not used.

JOHN T. BRAINARD,
Secretary, Department of Water,
Lancaster, Pa.

September 8, 1915.

[EDITOR'S NOTE.—For other expressions of opinion and experience regarding the ownership of water meters, see issue of September, 1915, page 231, and July, 1915, pages 53-55.]

Polis, Metro-polis, a City, a City-man, a Polis-man, the Policeman

By John Cotton Dana in "The Newarker"

The ablest group of men the world has ever known—they lived about 2,500 years ago—when they wanted to speak of their city, said "Polis," just the word we use now to refer to the men who try to keep our city in good order and enforce its rules.

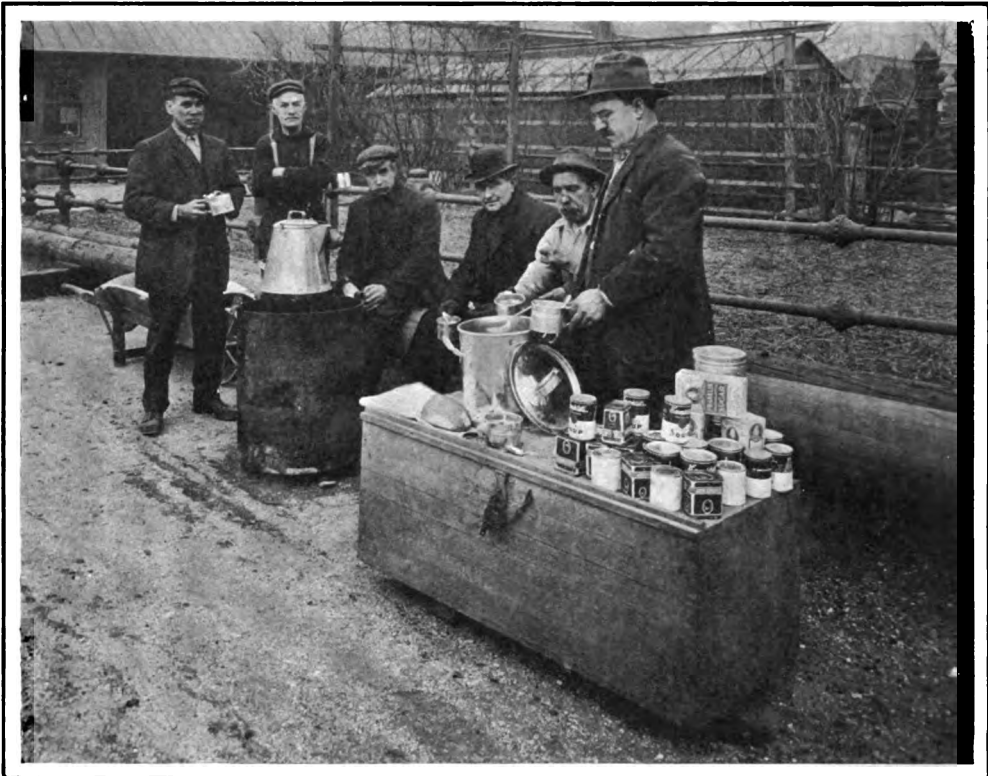
Well, what of it? Why, for one thing, the Policeman has a fine old name, of excellent ancestry. Once his name stood for his city itself, and now it stands for him,

his city's guardian. That gives him something to live up to.

Then, the Police man is the City-Man. He largely represents us all, and where you find good Policemen, there you usually find a well-managed city.

Anyway, if we were all as polite and obliging as our Police are, this city would be so gentlemanly that it would need no Policemen—and they all would lose their jobs!

Putting Human Interest into an Engineering Report



WATER BUREAU COMMISSARY DEPARTMENT

Furnishes hot coffee and "cats" to the men detailed on street work at night during the winter months

The foregoing is one of the many "human interest" pictures in a unique annual report issued last month by Morris Llewellyn Cooke, Director of Public Works of Philadelphia. The report bears the title "Plain Talk," and, to quote its title page, it discusses

ECONOMIES
GAS WORKS
PIGEONS
GOOD ROADS
SIGN BOARDS
GARBAGE
CITY PLAN
GRAFT
MARKETING

PUBLIC SINGING
DRINKING WATER
STREET CLEANING
BRIDGES
CONTRACTS
BAND MUSIC
PUBLIC UTILITIES
STREET LIGHTING
WATER WASTE

AND OTHER THINGS
OF GENERAL INTEREST

The Introduction arouses the interest of the recipient. It reads:

DEAR READER

Please forget that this is a public document. Read it rather as a study in home-making—as the record of one year of effort to make of Philadelphia the best place in all the world in which to live. This report of the Director of

Public Works to the Mayor of the city is really a story of the stewardship of 4,000 city employees working for the other 1,600,000 citizens.

The following excerpt is characteristic:

In the prize competition, Arthur C. Merrill, superintendent of meters, Bureau of Water, thus describes an improvement which is splendidly indicative of the new spirit of the department:

The establishment of a commissary department in the Bureau of Water to provide meals for the men engaged in emergency work is a step in the right direction. It has been installed at a very small cost and in addition to decreasing the hardship required of these men at such times, it will return many fold its cost by giving each man an increased efficiency.

Work of this nature usually comes in severe weather and invariably requires continuous attention both night and day until the job is completed. Unless the break has occurred near a place where food can be bought during the night, the men have been obliged to practice Christian Science and believe that they were not hungry and did not need warm drink unless some thoughtful citizen in the neighborhood took pity on them and made a pot of coffee and some sandwiches.

Happily this condition is now ancient history and the Water Bureau, while looking out for the welfare of its workmen, has decreased the time which any section of the city might be deprived of its normal water supply through breaks in its distribution system.

Making a Pump House Adorn a Park

By John P. Berry

Superintendent, Water-Works, Waterloo, Iowa

IN a setting of green trees, and surrounded by foliage and flowers, the pump house over artesian well No. 4 in Waterloo, Iowa, adds beauty to Cedar River Park. It is not far from the municipal bathing beach, and thousands of people view it during the summer months. The house was erected and the floral adornments added under the direction of the writer, who in coöperation with the water trustees conceived this plan of increasing the attractiveness of the park.

Two years ago the water-works trustees decided to increase the water supply by adding another artesian well. The work was begun in November, 1914, and completed in record time in April, 1914. The well is 1,378 feet deep. For the first 200 feet it is 15 inches in diameter, and for the remaining distance 8 inches. St. Peter sandstone

was struck at 800 feet. This stratum, which is about 40 feet thick, is a pure white water-bearing sand. Jordan sand was found at 1,300 feet; this is about 75 feet thick, also pure white and water-bearing. As soon as the drill struck this stratum the well began to flow, and continued to flow until the pump was installed.

The Construction of the House

By permission of the park board the well was drilled in Cedar River Park, 100 feet west of the east line. This portion of the park is subject to overflow when the Cedar River is at flood stage. For this reason it was necessary to place the floor line of the pump house about 9 feet above the street grade. This was accomplished by building a foundation 8 feet high and filling in, plac-



PUMP HOUSE OVER ARTESIAN WELL NO. 4, WATERLOO, IA.

ing concrete retaining walls, or terraces, to hold the fill. The first terrace wall is 29 inches high, one foot thick, and 50 feet square. The second terrace is 28 inches high and is set back 3 feet from the first; it is carried on twenty concrete posts. The third terrace is also set back 3 feet and is carried on posts. On top of the third terrace is a cement walk, 8 feet wide, extending around the building, which is unique and was designed by the water department.

The well house is 21 feet square, and measures 12 feet to the eaves. The outside is of pressed brick in two colors, with panel effect. The inside is of glazed tile, mottled with green to a height of 5 feet, and white from that point to the ceiling. The ceiling is of steel, painted white. The first roof has long, drooping eaves covered with tile; the second is of the same construction and is 3 feet above the first, making the building re-

semble a Japanese pagoda. It is surmounted by a 35-foot tower for handling machinery.

Decorations of Greenery

A triangular piece of ground west of the house has been transformed into flower beds and planted with hardy shrubbery and flowers. The space between the terraces has been planted with flowering shrubs—snow-berry, barberry, matrimonial vines and weeping golden bell. Forty varieties of shrubs and flowers have been used.

A novel rustic seat has been provided. It is of cement and is covered by a grape vine carried up through a 4-inch water-pipe and spread over the top of the arches, resembling an umbrella. A hydrant and drinking fountain has been placed near by for the convenience of the public.

This well alone provides for the entire water consumption of the city of Waterloo. Its capacity is 1,400,000 gallons daily.

Ordinances for Smoke Abatement

By Martin A. Rooney, M. E.

Smoke Inspector, Nashville, Tenn.

SMOKE ordinances have been in force since the last part of the thirteenth century, when the common council of London prohibited the use of "sea cole" within her borders and prescribed hanging as one of the penalties for violation of the law. Since that time numerous attempts have been made by legislative bodies to prevent this sort of atmospheric pollution, and most of the thickly populated centers of Europe have had in force smoke laws for the past one hundred years or more. In this country the first ordinance was adopted in Chicago in 1881, and at present about eighty of the more important cities have laws on this subject.

Authority

In this country smoke abatement ordinances are usually enacted by the city governments, only one state, Massachusetts, having state legislation on the subject. Cities derive the power to regulate the emission of smoke from the police power delegated to them from the state by their charters. This power is defined as the power of

the government to preserve and promote the public welfare by prohibiting things hurtful to the comfort and welfare of society and establishing such rules for the conduct of all persons and property as may be conducive to the public interest. In some cases cities have been empowered by special acts to pass ordinances abating the smoke nuisance. It has, however, been held by the courts (*Rayane vs. Lorange*, 66 Mich. 373) that this is not necessary, since a city may abate a nuisance without special grant of the legislature, provided that the thing prohibited is a nuisance *per se* and that the abating ordinance be reasonable; that is, it must be in the power of those creating the nuisance to prevent it, also the ordinance must be certain in its terms and specifically define the nuisance. Smoke ordinances can be passed under this provision of the common law; for smoke is certainly a nuisance in itself and can be easily abated by its producers; and dense smoke is perfectly susceptible of definition, since there are several standards for measuring it, and since the terms "dense" and "smoke" are

easily defined and recognized by the ordinary citizen. In practically all cases in which smoke ordinances have been before the courts, they have been sustained in all of their essential provisions.

Essential Features of a Smoke Ordinance

The functions of a smoke ordinance are to define and prohibit the production of offensive smoke, to establish penalties for its production and to take precaution against the installation of equipment which would aggravate the nuisance.

An ordinance for any particular locality should be designed to meet local conditions. The character of industries, the fuel and the form of government of any particular locality will, of course, affect the form of its smoke ordinance; however, all of the most successful smoke ordinances are similar in their essential provisions. Of course, an ordinance for a large city will differ from one in a smaller town. In a large city the supervision of construction of plants is important, while in the smaller town the police features of the ordinance overshadow all others.

SMOKE INSPECTORS.—Most smoke ordinances provide for the appointment, salary, bonding, etc., of a smoke inspector and assistants. The smoke inspector's work may be properly placed under the police or health department, or, better, under a separate department. The best ordinances provide that the smoke inspector be a mechanical engineer, and in some cities that he must be chosen by civil service examination. This provision is very important since, manifestly, it would be very difficult for a person untrained in the burning of fuel and generation of power to enforce a law dealing intimately with these subjects, as a smoke ordinance must.

CITY SUPERVISION OF CONSTRUCTION.—In large cities, to prevent each new plant from adding to the volume of smoke in the air, it is provided that no furnace can be constructed, repaired or operated without the approval of the smoke inspection department. Therefore, the law usually provides that a permit must be secured from the smoke inspector before the installation or alteration of a furnace can be begun, and a certificate must be issued by him before it can be operated. Usually the class of apparatus to be approved is left to the discretion of the smoke inspector; the ordinance in force in the city of Cincinnati being the only one which prescribes rules for the installation and construction of apparatus.

PROHIBITION OF DENSE SMOKE.—Some cities (Cleveland, for example) simply prohibit the emission of dense smoke and allow no period whatever during which it can be emitted.

Since, however, the emission of dense smoke for short periods is not objectionable, and since, under conditions prevailing in an ordinary power plant, it is unavoidable in cleaning and building fires, the emission of dense smoke is usually allowed for a certain period varying from five to fifteen minutes in one hour, the period being six minutes in most ordinances. The provision that smoke may be emitted for a certain number of minutes consecutively is bad, for it may be interpreted to mean that smoke can be emitted for five minutes with a clear interval of one minute and then for another five minutes, and so on. In some places emission of dense smoke is allowed for a long period at the time fires are being started, some providing that they must be started between certain hours. The city of Boston is the only one that classifies stacks according to their size and use and allows a different amount of smoke from different classes of stacks. When the ordinance was adopted in 1910 comparatively long periods were allowed for the emission of smoke, the ordinance becoming stricter each year until 1913 and thereafter.

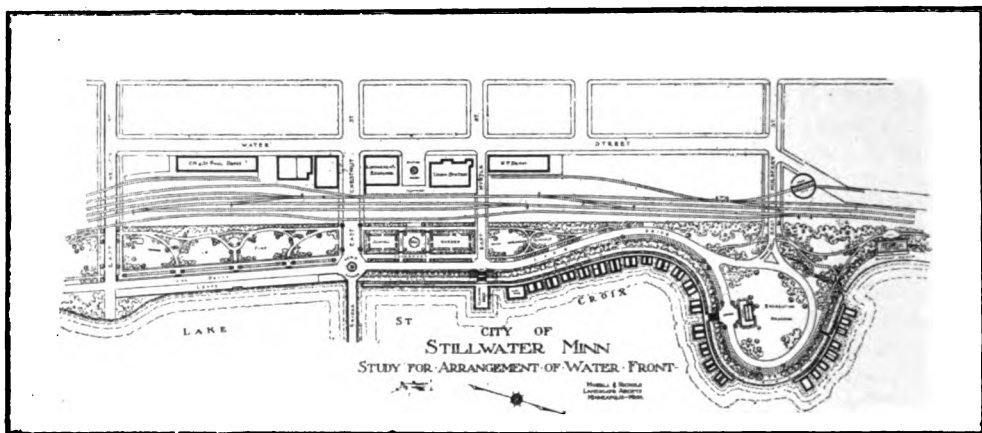
DEFINITION OF DENSE SMOKE.—The present anti-smoke laws vary considerably in defining dense smoke. In some it is defined merely as offensive smoke, in others as smoke which deposits soot, in others as smoke which cannot be seen through as it issues from the stack. Some use a glass of a standard color with which the smoke must be compared, others use charts similar to the Ringleman Chart. Most of the ordinances lately adopted define No. 3 of the Ringleman Chart as dense smoke, which seems to be the most satisfactory definition.

PENALTIES.—The penalties for the emission of smoke vary from fines of from \$200 to \$300 for each violation, to imprisonment. Practically all ordinances provide that the emission of smoke may be summarily abated by the proper authorities.

PERSONS LIABLE.—Owners, operators, managers, engineers, firemen and all who have to do either directly or indirectly with the maintenance or operation of furnaces are named as liable for the violation of the ordinances.

SPECIAL FEATURES.—Several ordinances embody features peculiar to themselves. The Memphis ordinance provides that all accidents to any steam-generating apparatus shall be reported to the smoke inspector within twenty-four hours. The Denver ordinance provides that it shall be a good defense in a prosecution if the person charged with violating the ordinance can show to the satisfaction of the court that there are no practicable means by which the emission of dense smoke from his particular apparatus can be avoided.

The cause of smoke abatement would be greatly advanced if the laws were more uniform. It is to be sincerely hoped, therefore, that municipalities in adopting new measures will pattern them in their essential features after the best at present in use.



The Water-Front Improvements at Stillwater, Minn.

By Frank T. Wilson

THE site of Stillwater, Minn., on Lake St. Croix, is unusually picturesque and advantageous. As in many other cases, however, no foresight was exercised in the early days in laying out the town along attractive and practical lines. The long, narrow, flat surface of the water front was cut up with railroad tracks and

industrial plants and presented a very shabby appearance. The area between the bank and the railroad tracks served as a dumping ground for the city. The four streets included in this neglected area meet the lake front at right angles and are, in order, from south to north, East Nelson, East Chestnut, East Myrtle and East Mul-

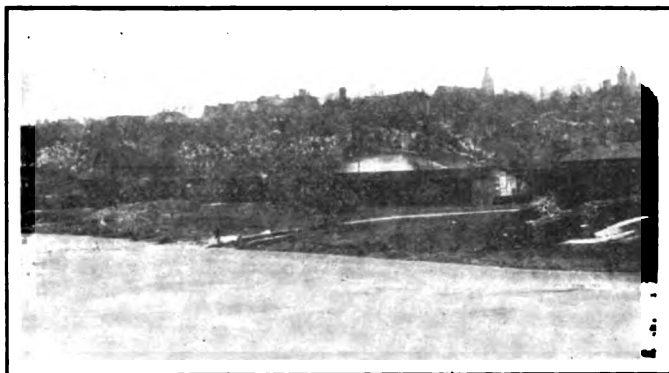


BOAT HOUSES AND UNSIGHTLY BANKS AT STILLWATER

bery Streets. The tract between East Nelson and East Chestnut, except the north one hundred feet, belonged to the city and was known as the levee.

A time of awakening came to Stillwater with the great civic revival which is sweeping the country. Attention was first directed to the neglected levee. The movement for its improvement originated with the Stillwater Citizens' Association, which by means of a street carnival had acquired a fund of about \$1,000. A proposition was made to the City Council that the Citizens' Association would start the reclamation of the levee with the same sum that the city would put into it. Negotiations between the city and the Northern Pacific Railroad for the removal of the sheds and tracks from a certain portion of the river front finally resulted in an agreement by which the city was granted the use of the ground north of the levee along the shore of Lake St. Croix for park purposes for a period of twenty years. The railroad company reserved the right, however, after five years, on a year's notice, to resume possession of its property, provided that it needed the grounds for railroad purposes.

In due time the work was entrusted to an executive committee representing both the City Council and the Citizens' Associa-



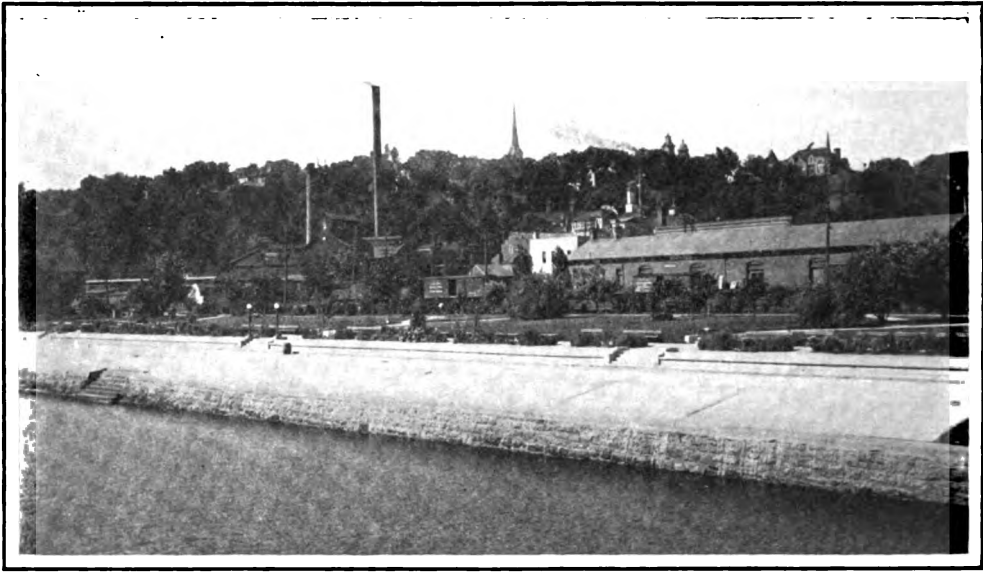
THE OLD LEVEE IN WINTER TIME

tion, and a beginning was made under local advice without any definite plan. The Citizens' Association contributed \$750 for this initiatory work, and the city about \$1,000. Several months later Mr. Elmore Lowell, a life-long citizen of Stillwater, offered to put \$5,000 into the work on condition that it should be conducted in accordance with the plan of some good landscape architect. Mr. Lowell's proposition was accepted. Mr. W. A. Finkelnburg, of Winona, Minn., was selected to plan the work, and under his supervision the improvement of the portion between East Chestnut and East Nelson Streets, now known as Lowell Park, was carried out. The park occupies a tract of ground approximately 150 by 550 feet.

The general scheme of the park includes a lawn in the rear at such an elevation that in all ordinary stages of the river it will be above high water mark. The lawn occupies about two-thirds of the ground, is diversified by groups of trees, shrubs and flowers, and is terraced to a broad parterre of double walk extending along the levee front. Flower beds between the walks constitute a striking feature of the formal part of the park, and a hedge adjacent to the railroad tracks adds to the beauty. The east line of the parterre is defined by a cement retaining bench, which elevates the walks two feet above the levee proper. The levee, forty



VIEW FROM SOUTHEAST CORNER OF OLD LEVEE



A GLIMPSE OF LOWELL PARK, STILLWATER

feet in width and paved with cement, slopes from the cement bench to a stone retaining wall, which marks the river edge. Suitable walks and steps give the public convenient access to all parts of the park.

The cost of the park was as follows:

River wall	\$2,386.21
Filling grounds	2,194.51
Grading surface soil and seeding....	642.50
Walks and flower beds.....	1,020.20
Cement benches, steps, wall cap.....	1,264.30
Wooden seats	154.00
Shrubs, trees, etc	114.63
Engineer's fees, tools, etc.....	295.82
Ornamental lights and wiring.....	325.83
Concrete paving of levee (40' x 550')	3,100.00

Total\$11,498.00

This sum was contributed as follows:

Citizens' Association	\$750.00
Jacob Bean	500.00
Elmore Lowell	5,000.00
Forty-three citizens	1,200.00
City of Stillwater	4,048.00

\$11,498.00

The citizens of Stillwater were so encouraged by the good results secured in Lowell Park that a movement was started for carrying the improvements north of Chestnut Street. Morell & Nichols, of Minneapolis, have prepared a study for a considerable distance along the water front, extending from Chestnut Street north to East Mulberry Street. Two main problems enter into the proposed improvements: one

is the laying out of the flat space between the banks and the railroad tracks from East Chestnut Street to East Mulberry Street; the other is the improvement of the bank and provision for an attractive and practical construction of floating docks and walks and the grouping of boat houses. The flat space between the water front and the railroad station is centrally located and offers an ideal site for a sunken garden. The portion of the water front north of East Myrtle Street and beyond East Mulberry Street will be devoted principally to trees, shrubs, lawn and walks. The Lake Drive along the water front will be eventually a part of the parkway system. Part of the bank below the Drive will be planted with low shrubbery and the remaining portion will be maintained as a beach. An attractive stairway at the foot of East Myrtle Street makes it easy to reach the beach, the floating dock and walks and the boat houses. A pergola extending on both sides of the stairway will serve as an outlook and a music pavilion.

On account of the rapid change in the water level, the desired construction of the floating docks and walks requires some engineering skill. The recent dismantling of the logging boom above the city furnishes an unusual opportunity to get material for the walks. These walks, in addition to providing for landing and for access to boat

houses, protect the beach from the washing of the waves and furnish on the inside a safe place for children to play and wade in the water. The architects suggest that the floating docks and walks be anchored by strong iron pipes and ornamental posts imbedded in concrete, in order to make this feature of the improvement permanent.

Stillwater is blessed with wonderful opportunities for becoming one of the most attractive towns in the Northwest. The present proposed improvements, started in a modest way by a few citizens, will lead to bigger things and will furnish an example to other towns similarly situated. The ex-

cution of the proposed park improvement will depend largely upon the good-will of the railroad company which owns the land. Stillwater has followed the usual practice of American cities in freely relinquishing shore rights to railroads. It has even gone further: nearly all the land has been created during the past twenty years by the citizens of Stillwater with scarcely any expense to the railroad. However, the railroad has already granted permission to use a portion of the property improved in the project, and it is hoped there will be no difficulty in making satisfactory arrangements for the remainder.

The Improvement of the Davenport River-Front

By Leonidas Willing Ramsey

Landscape Architect

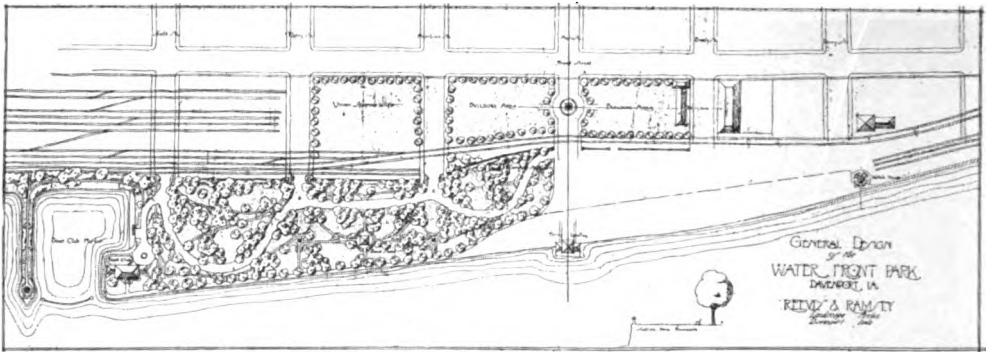
WITH a large part of the \$1,000,000 river-front reclamation project completed, this pioneer work of Davenport, Iowa, is drawing the attention of every wide-awake city along the river. Until a few years ago the river-front was a dumping ground for the refuse of the city, and was littered with tin cans, barrels, boxes and all manner of garbage. Strangely enough, no one had seriously considered taking advantage of this location beside the broad Mississippi, to make the site a beautiful park, where the river could be enjoyed by day and the reflections of the city of Rock Island appreciated at night. It is true that a few physicians and city-beautiful enthusiasts had sent general criticisms to the newspapers, but no one had offered a logical scheme for its reclamation.

A few years ago, however, the Greater Davenport idea struck the city; while plans were being made to encourage and secure commercial enterprises, W. D. Peterson, who had observed water-fronts in Europe, pointed out that if Davenport wished to become an example to the other river towns, and at the same time improve her general appearance, no greater work could be done than the reclamation of her river-front. He interested the City Council after a report was drawn up by A. M. Compton, City

Engineer, and later an appropriation of \$75,000 was made, so that the first part of the work might be carried out. Mayor Alfred C. Mueller gave his support to the plan, and a Levee Commission was formed, composed of W. D. Peterson, W. H. Kimball, A. M. Compton and Rudolph Clausen, a local architect. Mr. Peterson devoted most of his time to the work. The Greater Davenport Committee, composed of thirty prominent citizens, became interested in the matter, and, under the leadership of their secretary, Irving C. Norwood, did all in their power to carry out the scheme and to interest the other cities along the river.

The New Park

By last fall the first part of the river-front scheme had been completed. A wall had been built of rough stone from river bottom to fifteen feet above low-water mark. This is the outer boundary to the park, which is about a block wide and extends three blocks parallel to the shore. The space back of the wall, which was 20 feet deep in places, and estimated to contain 333,333 cubic feet, was then filled in. Much of the fill is composed of sand pumped from the river. This was carried to the wall in large barges and then dumped into place by huge cranes. The remainder



of the filling material was street sweepings.

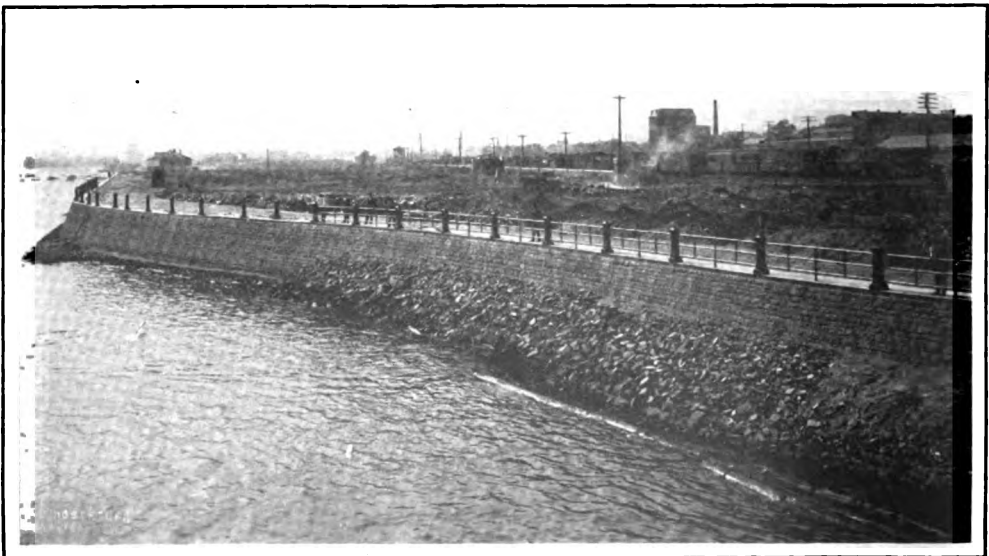
The park will soon be ready for the public; the park commissioners are busy pushing the work, digging holes for trees and laying out drives. Black dirt is being hauled, and the site is rapidly being brought to grade. The park is designed primarily for pedestrians, where the people of the down-town district can find refuge during hot summer days. Along the sea wall at the river's edge will be a 12-foot promenade. Directly behind this wall is a row of trees, under which benches will be placed. Between the walk and the tree line temporary bleachers may be erected, in the event of regattas or municipal fireworks displays.

The central feature of the scheme is a band-stand. Seats will be placed around it, and municipal concerts will be held

there. Two shelter houses are included in the scheme; these may be replaced by statues at some future time. There is a comfort station located at the entrance to the park, so as to be easily accessible to people using the ferry. The boat harbor is designed to accommodate a sufficient number of boats, and it is thought that when concerts are given upon the river there will be a renewed interest in boating, as one will be able to drift about and enjoy the music. The views on the opposite side have been carefully preserved, so that the reflections up and down the river may be enjoyed to their fullest extent.

A Comprehensive Plan

The ground already reclaimed is but a sample of the entire reclamation project, which, for a city of 50,000, seems of mam-



THE RIVER-FRONT PARK IN DAVENPORT BROUGHT TO GRADE

moth proportion. When it is completed there will be an Academy of Sciences, a municipal casino and a new union station upon the water-front. The location of these buildings has not been definitely settled, but the accompanying drawing will show their approximate situation.

The remainder of the reclamation project embraces the up-river end of the present park site. This will be the industrial section for the new levee; it is to be not merely a thing of beauty but of utility as well. The fill for this section runs four blocks up the river from 135 feet to 225 feet from the present bank, and in some places 35 feet deep. Between the industrial and the parking sections will be a tract 200 feet wide and 1,000 feet long, sloping to the river at a 10 per cent grade, for a ferry and excursion boat landing.

With the construction of a river-front terminal, which will be equipped with urban freight-handling machinery and a municipal warehouse, the principal feature of the industrial section, Davenport looks for the

resumption of the river freight traffic, which, thirty years ago, was the principal industry of the Mississippi Valley. Even during the short time since the beginning of the levee reclamation work, there has been a noticeable increase of river freight. The reclaimed land along the terminal will be rented to commercial houses at a figure which will ultimately retire the bonds issued for the reclamation project.

While the cost of the entire scheme is estimated at \$1,000,000, by the expenditure land worth \$3,000,000 will be added to the city's property. The project will not be completed until 1916. City Engineer Comp-ton has resigned as such, and has been made engineer for the levee commission, to devote his entire time to the work.

A number of cities along the Mississippi have followed Davenport's example; a large number have the matter under contemplation; others also along the Missouri and Ohio rivers have sent delegations to view the actual operations and to study the plans.

Getting the Immigrant Child to School

Every immigrant child arriving at a United States port of entry will henceforth be reported immediately to the school authorities in the locality to which he is destined, so that he may be placed in school without loss of time and without danger of being shunted off into unlawful employment. This is made possible by coöperation between two Federal bureaus—the Bureau of Immigration of the Department of Labor and the Bureau of Education in the Department of the Interior.

According to the plan agreed upon by Commissioners Caminetti and Claxton of the two bureaus concerned, the port officials will have the names of immigrant children between the ages of five and sixteen copied from the manifest sheets submitted by steamship captains, and forwarded, daily or weekly, to the county or city superintendent of schools.

Bureau of Education officials point out that the success of the plan will depend almost entirely upon the school authorities. If the attendance officer follows up at once the families where the newly arrived immigrants have been received, it will be pos-

sible to enroll every child in school. Otherwise, the child is apt to accept employment and be forever beyond the influence of American education.

It is pointed out that about 160,000 children between the ages of five and sixteen enter the United States annually; 85 per cent of these come from non-English speaking countries, particularly from southern Italy, Poland, Russia, Lithuania and other eastern and southern European and Asiatic countries. Unless these children come into contact with American life through the public school, they are likely to grow up ignorant of American institutions and thoroughly unfit for citizenship.

The plan of sending the names of these immigrant children immediately to county and city superintendents is a first step in the upbuilding of a domestic immigration policy by the United States Government, according to Dr. H. H. Wheaton, special agent in immigrant education of the United States Bureau of Education, who says, "It marks the beginning of the end of the doctrine of *laissez-faire* with reference to the Americanization of the immigrant."

FACTORS IN THE SUCCESS OR FAILURE OF STREET PAVEMENTS

EDITOR'S NOTE.—*The following is the second of the series of articles under the above heading to be published in THE AMERICAN CITY, as announced in the July number. The first of the series, on Sheet Asphalt Pavements, by Daniel T. Pierce, Executive Assistant, The Barber Asphalt Paving Company, appeared in the August issue. The remaining articles in the series will be:*

BITUMINOUS MACADAM—Philip P. Sharples, Manager, Tarvia Department, Barrett Manufacturing Company.

BRICK—Will P. Blair, Secretary, National Paving Brick Manufacturers Association.

CONCRETE—W. A. McIntyre, Chief Road Engineer, American Portland Cement Manufacturers Association.

GRANITE—Zenas W. Carter, Field Secretary, Granite Paving Block Manufacturers Association of the United States.

WOOD BLOCKS—H. S. Loud, Chief Engineer, United States Wood Preserving Company.

The articles will be published in alphabetical order, as listed above. As the manufacturers of the various types of pavement are vitally interested in the proper construction and maintenance of their products, and have necessarily made a very careful study of this subject, they are able to offer thoroughly practical advice regarding factors to be considered and mistakes to be avoided. It is not the intention of this series of articles to advocate the merits of any particular kind or brand of pavement. The assumption will be in each case that a city has decided to lay a pavement of the type under discussion; the object of each article being to offer suggestions as to how the longest life may be obtained for such a pavement at the least possible expenditure to the municipality.

Asphalt Block Pavements

By Edwin J. Morrison

President, The Hastings Pavement Company, New York

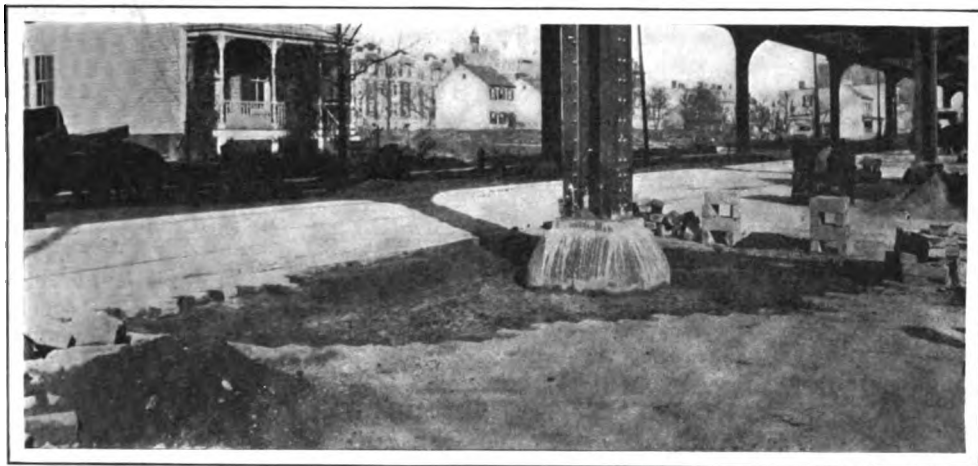
WE start out with the assumption that a municipality has decided to lay an asphalt block pavement and that a discussion of the merits of different classes of pavement and comparison of their merits, or demerits, has no place in this article. It is a fortunate editorial restriction that requires us to take up the question after the type of pavement has been selected; for of all human problems that breed dissension and discord among property owners and officials, none is so potent as the usual discussion over the selection of a type of pavement.

The chief factors in the success of an asphalt block pavement can be briefly summed up in the statement that first-class blocks should be well laid on a suitable and

substantial foundation. The specifications necessary to produce this result cannot be so briefly stated. As "a chain is no stronger than its weakest link," a pavement must be designed so that both the foundation and the wearing surface will each perform its allotted part. A good wearing surface may be destroyed by the failure of the foundation and thus bring discredit upon a surface material which would be entirely adequate if properly supported. On the other hand, a suitable foundation will hold up a relatively poor wearing surface and render its failure less pronounced.

Foundation

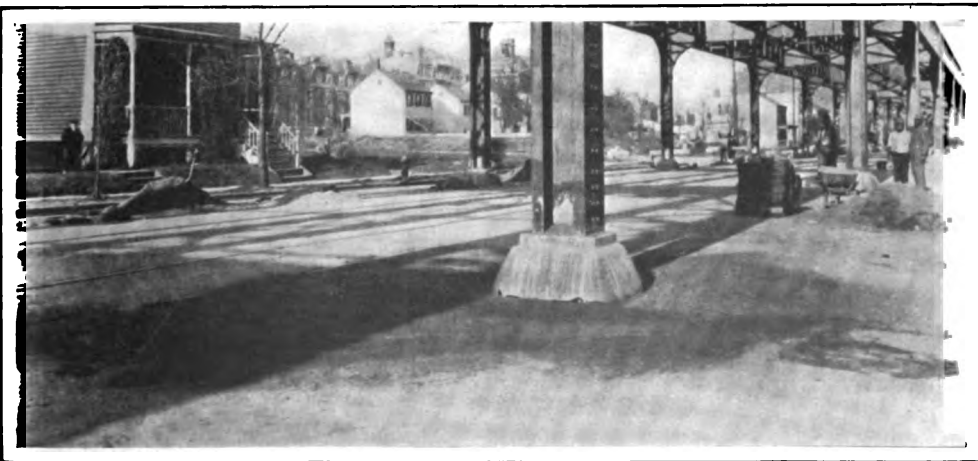
A very large percentage of the failures of the past have been due to inadequate



READY TO RELAY THE BLOCK IN REPAVING AN OPENING



POURING ASPHALTIC FILLER INTO THE JOINTS



REPAIR COMPLETED, AND SURFACE COVERED WITH TRAP ROCK GRITS

foundation. Many pavements are being laid at the present time upon an insufficient foundation, thus laying the basis for future failures. It is the opinion of the writer that the question of providing a suitable foundation is one of supreme importance. We are undergoing a period of rapid change in traffic conditions, the significance of which it is hard to fully realize. This changing condition is due to the introduction and use of the motor truck. This twentieth century juggernaut is increasing, both in size and numbers, with startling rapidity, and is producing a new set of conditions which must be provided for in the construction of pavement, but more particularly of pavement foundations.

A few years ago the horse-drawn truck, carrying loads of from one to three tons, was about the most severe test that the average pavement had to withstand. Now the motor truck is rapidly supplanting the horse-drawn vehicle and carrying loads of five, six and seven tons. These trucks weigh approximately five tons light, and when fully loaded develop wheel loads four and five times greater than the former horse-drawn vehicle. With these increased wheel loads comes simultaneously an increase in speed from three miles an hour to fifteen or twenty miles an hour. The result is startlingly apparent. Wearing surfaces which are at all soft or plastic are being rolled into humps and ridges, and concrete foundations that have withstood for many years the old traffic conditions are being cracked, broken and destroyed.

Where will the increasing size of motor trucks stop? If the last fifteen years have seen this great change in traffic conditions, what changes will take place in the fifteen years to come? It certainly is very necessary to provide an adequate foundation to meet present traffic conditions, and it is the part of wisdom to provide somewhat for the future, for a concrete foundation ought to be so laid that it will outlast several generations of wearing surface.

Of course it makes a great difference whether the street to be paved is a through line of traffic or a side street, which normally would have only to carry the traffic originating on the street itself or providing for its needs. It also makes some difference whether the street is in a great metropolitan district or in a little community far removed from centers of big activity. The

community will, indeed, have to be far removed to escape for any great time from the motor truck. In this consideration of changing traffic conditions we have left out of consideration the pleasure automobile—for, as far as wear and tear on asphalt block pavements are concerned, it is practically a negligible quantity.

We are squarely confronted, then, with the proposition that the first important element in the success or failure of the pavement is its foundation. When a street is torn up and excavated, and the contractor has assembled materials and equipment for laying the foundation, the relative cost of an inch or two more or less of concrete is comparatively small. If it is a financial question, and the appropriation is absolutely limited, it is better to put in a substantial foundation and economize on the thickness of the wearing surface, for a wearing surface can be renewed without disturbing the foundation, but a foundation cannot be renewed without disturbing the wearing surface. On all streets subject to a through traffic, we think a 6-inch foundation of the best Portland cement concrete should be used, coupled with especial attention to the thorough rolling and compacting of the subgrade; while on residential streets, of purely local traffic, under conditions where it has been customary in the past to use a 4-inch concrete foundation, we should certainly advise laying at least 5 inches, for every street is liable to become a thoroughfare at some period of time while being used as a detour or on account of some obstruction.

Old macadam has been, and can be, very successfully used as a foundation for asphalt blocks. The important points in utilizing old macadam for foundation are, first, to make sure that the old macadam really exists, and second, to be able to utilize the macadam with the least possible disturbance of its surface. It will usually be necessary to scarify and reshape the macadam surface to some extent in order to produce a degree of uniformity that will enable the blocks to be laid upon a mortar bed about one inch in thickness. The action of traffic on a macadam surface is generally to produce a hard, compact upper crust, or shell, well adapted to act as a foundation, if it can be let alone and the inequalities provided for by the mortar bed. Where it is necessary to tear up this hardened surface, the effect of



SURFACE TREATMENT, SHOWING APPLICATION OF THE PAINT COAT

the scarifier is to loosen and shake up the larger stone underneath and detract very materially from its value as a foundation.

Wearing Surface

The present standard sizes of asphalt blocks for street use are 5 x 12 inches, the depth being 2, 2½ or 3 inches. This does not mean that blocks cannot easily be made of any depth, from 1 inch to 4 inches, if desired, either for new work or repairs. It may be interesting to note here that in the early days of the asphalt block industry, twenty-five or thirty years ago, the blocks were generally made 4 x 12 inches, with a depth of 5 inches, and laid on a gravel and sand foundation, the theory being to make a block of such volume and rigidity that it would not require a concrete foundation. Of course the ultimate utility could never be gotten out of a block of such depth, and furthermore, the expensive materials which entered into its composition made its cost excessive.

The next stage in the evolution of the asphalt block pavement was a block 4 inches in depth, laid on a light concrete foundation, with a sand cushion of 1 inch or 2 inches introduced between the concrete and the block. This led logically to the 3-inch and 2-inch block laid on a more substantial foundation, with a mortar bed taking the place of the sand cushion.

We have pointed out that to secure success it is necessary to provide a good as-

phalt block, to be laid upon an adequate foundation. To secure this good block is for the layman and the average engineer a much more baffling problem than to insure a good foundation. With the multiplication of plants producing asphalt blocks it is inevitable that there should be a considerable difference in the materials used and in the methods of manipulation, and naturally in the resultant product.

The important materials entering into the structure of the block are crushed stone, inorganic dust or filler, and asphaltic cement. Crushed trap rock has been adopted as the standard stone because of its toughness, grittiness and recognized superiority as a road material. It is essential that the crushed trap rock should be clean, and to insure this the stone should be brought from the quarry free from screenings and foreign matter, and the final crushing and reduction to standard sizes should take place at the plant where the blocks are made.

The inorganic dust is produced by grinding up a limestone rock, and this also must be clean, of proper chemical composition and uniformly ground to a great degree of fineness. The purpose of the inorganic dust is to fill the voids of the crushed trap rock and serve as a medium for carrying the asphaltic cement. It also has an important effect chemically in combination with the asphaltic cement. The asphaltic cement furnishes the binding material which holds

this aggregate of broken stone together.

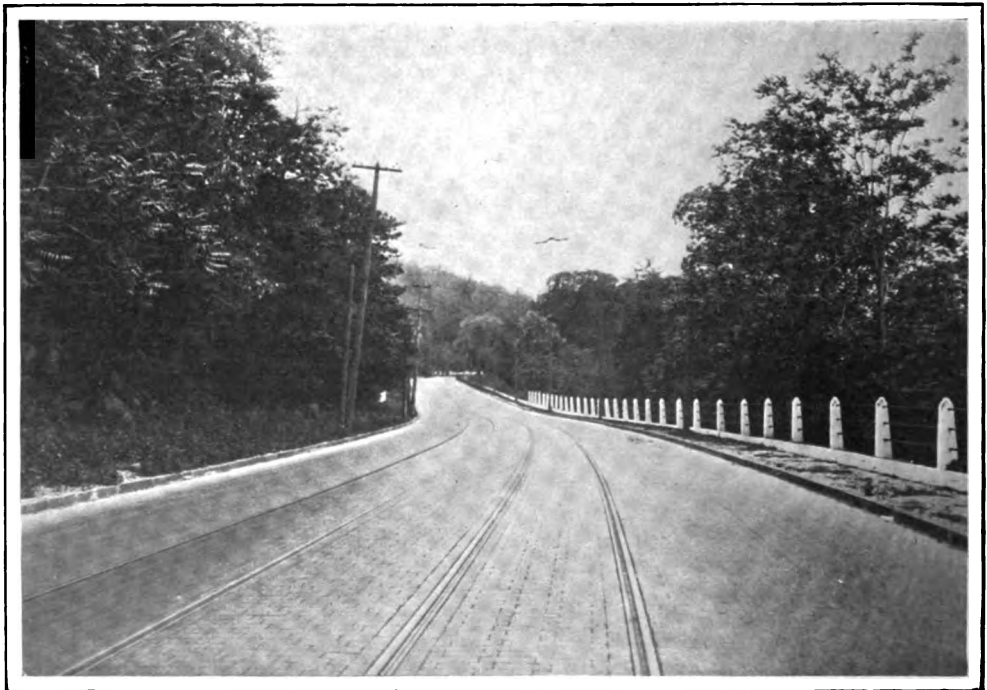
These three materials are combined at temperatures averaging about 300 degrees F., and at this temperature are molded into block form at great pressure. In order to produce the density and homogeneity required to make the asphalt block practically non-absorbent, a pressure of more than 200 tons on the 5 x 12 face of the block is required. It can readily be understood that this compression of about 7,000 pounds per square inch is greater than any load which the block will be subjected to on the street, even if motor trucks keep on increasing in size as rapidly in the future as they have in the past.

How is the municipality going to determine whether the asphalt blocks for the wearing surface of its streets are good or not? An inspection of surface indications will tell something, but not much. Unless the municipality is provided with a laboratory, where the asphaltic cement can be reclaimed from the block and tested for bitumen, paraffine, penetration, melting point, brittleness and tensile strength, it will, of necessity, have to take a great deal for granted.

One method of overcoming this difficulty is to visit the plant and see how the materials are handled and the blocks made. Any layman can tell whether the materials are being handled carefully and whether the processes and methods are being conducted skillfully, with accurate records of temperatures and weights of materials. We are, indeed, of the opinion that this is about the only method of determining the intrinsic merits of the material. The contractor's agreement to maintain the wearing surface is, of course, a valuable guarantee of wearing quality for the usual period of five years; but what the municipality really wants, and hopes it is buying, is a material that will last for fifteen or twenty years.

Maintenance

If the municipality has selected a responsible contractor and manufacturer, the maintenance of its streets will be assured during the guarantee period. At the expiration of this period the municipality itself becomes the guarantor, and right here lies one of the most important elements in the success or failure of the pavement. It is a curious fact that the average municipi-



WARBURTON AVENUE, BETWEEN YONKERS AND HASTINGS-ON-HUDSON, N. Y.
Paved with 2-inch asphalt blocks on a concrete foundation

pality having had no trouble or expense with a pavement during the guarantee period is prone to assume that this happy condition will last forever. *We believe it is a fact that more waste and loss accrue from the neglect of the pavement after the termination of the contractor's guarantee than from all other causes combined.* We have seen many pavements that should have lasted, in a serviceable condition, for twenty years, allowed to deteriorate through sheer neglect so that repavement became necessary at the end of ten or fifteen years.

Asphalt block pavements are very easy to repair. The repairs can be made at any time without delay, by the municipality's own street department, no plant being necessary, the only requirement being a few blocks on hand in the street department yards. The defects which usually develop are slight depressions around manhole heads, or along street car tracks, which should be remedied promptly by taking up the blocks, restoring the grade by a little additional mortar bed and relaying the blocks.

One of the most frequent sources of trouble is due to the opening of the pavement to get at subsurface structures and the repavement of the opening in a slipshod manner, or a settlement over this opening due to improper back filling of the trench. Here, again, asphalt blocks demonstrate their utility and economy. The depression in the pavement does not destroy the surface or do any injury to the individual blocks, but wherever such depression occurs

the blocks should be promptly taken up, the grade restored by additional concrete or mortar bed, and the blocks relaid to true line and grade. If the edges and corners of the blocks have been somewhat damaged or mutilated so as to produce large or unsightly joints, these should be filled with fine broken stone or grits and poured with an asphaltic filler. This treatment will not only restore the street surface to its original contour, but will make a perfect repair which will become invisible after a few weeks of traffic, and the pavement will be as good as new.

Surface Treatment

Old asphalt block pavements that have been laid ten or fifteen years often develop a hard, dry condition of the surface, which tends to cause a pitting of the surface of the block and chipping of the joints. This condition can be absolutely overcome by a simple and inexpensive application of a bituminous paint coat, followed up by a thin sprinkling of fine trap rock grits or a suitable dry sand. This bituminous paint coat must be scientifically prepared by combining a heavy bitumen with a solvent, which will have the effect of softening up the hard asphaltic cement in the surface of the old blocks, and after the evaporation of the solvent leaving a thin layer of stable bitumen to unite with the old material. This surface treatment can be applied at an expense of only a few cents per square yard and will completely arrest the tendency toward brittleness and add many years to the life of the pavement.

The Importance of Alley Paving

By Robert F. Hall

THE paving of streets has for many years absorbed the interest of cities, towns and villages, and great strides have been made in this direction, but it is only within recent years that the alley has emerged from the eclipse into which the street has thrown it.

The importance of the paving of alleys, particularly from a sanitary standpoint, is attracting constantly increasing attention from municipal authorities, neighborhood

improvement clubs and individual property owners. Unsanitary alley conditions have become the subject of energetic measures of reform, and thus call emphatically for some form of permanent pavement.

It is a peculiar psychological fact that an unpaved alley, presenting, as it usually does, a muddy or dusty appearance, encourages property owners to throw into it an infinite variety of rubbish, whereas a paved alley, with a smooth, clean surface from fence to

fence throughout its entire length, influences householders to place rubbish and refuse in receptacles provided for the purpose and to keep the alley neat and clean. Some cities by ordinance require open fences along alleys, because householders hesitate to deposit in the alley rubbish that will be plainly visible from the back yard.

Alley pavements should be as substantial as those in the street, because they have to carry the maximum load which is permitted on the street. The drainage is usually towards the center of the alley to sewer inlets provided at the low points. Thus the entire alley acts as a gutter for the surface water.

In the last two years concrete has had broad acceptance as an alley pavement material and there are also precedents of as much as nineteen years' standing.

An alley in Richmond, Ind., between Tenth and Eleventh Streets and running from Main Street to the alley between Main and A Streets, was built in 1896 under what would now be considered poor specifications, and yet after almost a score of years it is in excellent condition and shows little wear. It was marked off in squares a little larger than those common in sidewalk construction, and the only wear noticeable has been along these division lines.

Eight years ago an alley was laid in Vincennes, Ind., bounded by Second, Third, Main and Busseron Streets. Two unprotected longitudinal joints, about 2 feet apart, anticipating a sewer to be built at a later date, permitted wheel traffic to follow and break down the edges, but this has constituted practically the only wear. Modern specifications avoid longitudinal joints. Ten years ago an alley or driveway was laid in Vincennes, Ind., behind the Post Office. Horses are hitched daily along one side of the pavement, but neither their constant pawing and stamping nor steel-tired traffic has had appreciable effect, and marks left by the finishing tools are plainly visible.

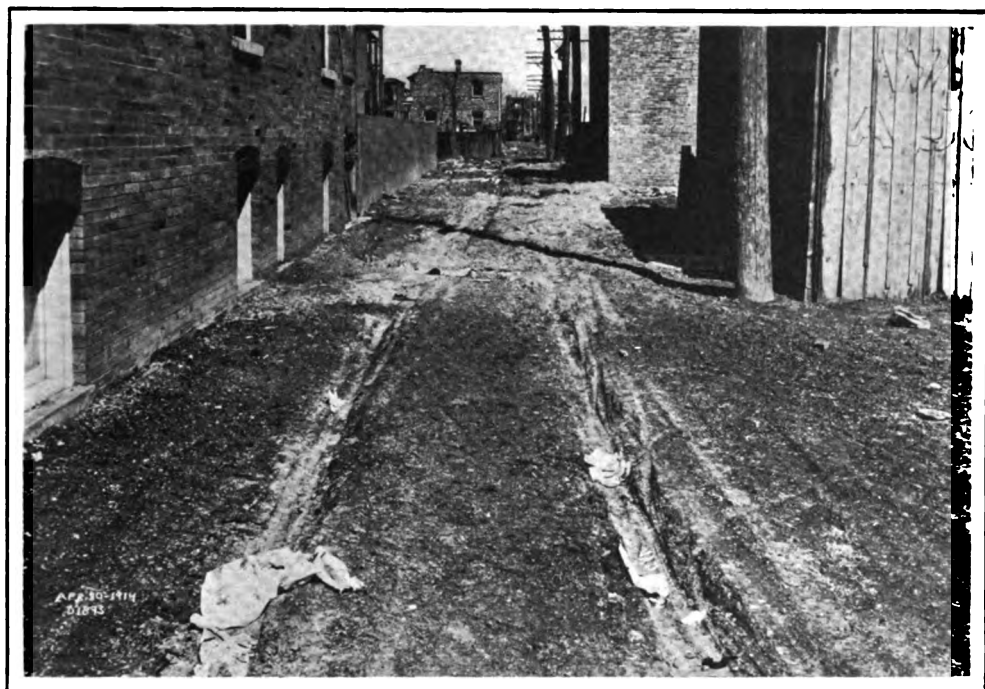
Pittsburgh adopted specifications for concrete in 1914, calling for one-course construction, using local river sand and gravel or crushed stone, 1:2:3 mixture, a minimum thickness of 6 inches and steel-protected expansion joints every 25 to 30 feet. Drainage is cared for by a slope of $\frac{1}{4}$ inch per foot toward the center for narrow alleys

without gutters, and of $\frac{1}{4}$ inch per foot crown for wider alleys. The first alley in Pittsburgh was 12 feet wide and 109 feet long, and as a result of the satisfaction given, bids were immediately advertised for concrete alleys to be built in several sections of the city.

The city of Detroit paved 100 alleys with concrete in 1914, and it is probable that 1915 will see double that number similarly paved. Detroit alleys are usually 20 feet wide, with concrete laid 6 inches thick. Special machine sweepers have been secured by this city to clean alleys, and hereafter those paved will be swept weekly and cleaned as thoroughly as paved streets. Dayton, Ohio, has consistently used concrete for alley pavements. According to Gaylord C. Cummin, former City Engineer, from 1907 to January, 1915, a total of 95.96 miles, or 51,948 square yards, was laid. Minneapolis has a number of excellent concrete alleys. The general specifications cover a 6-inch, 20-foot pavement, divided into 38-foot sections by expansion joints and dished 2 inches for drainage. Chicago has probably the greatest yardage of concrete alleys of any city in the country. Since the beginning of 1911 more than 206,000 square yards have been laid, and the 1915 program contemplates more than 150,000 square yards additional.

The successful alley pavement must be moderate in first cost, dustless, durable, self-cleaning and non-absorbent of liquids—qualities characteristic of concrete. Having these advantages, this material is rapidly taking the same position for alley construction that it did many years ago for sidewalks.

The propaganda for better alleys is country-wide and gaining momentum. Many districts are said to have been rehabilitated by alley betterment, and property values increased by hundreds of dollars, at actual costs of \$50 to \$75 per 30-foot lot. Any program of physical municipal house cleaning can logically start with the alley. Ordinances against careless disposal of garbage and other wastes are difficult to enforce if ruts and mud exist; there is no incentive, no standard of neatness. On the other hand, such laws are largely self-enforcing where good pavement conditions exist. Civic pride is appealed to and the neighborhood is cleaned up of its own volition.

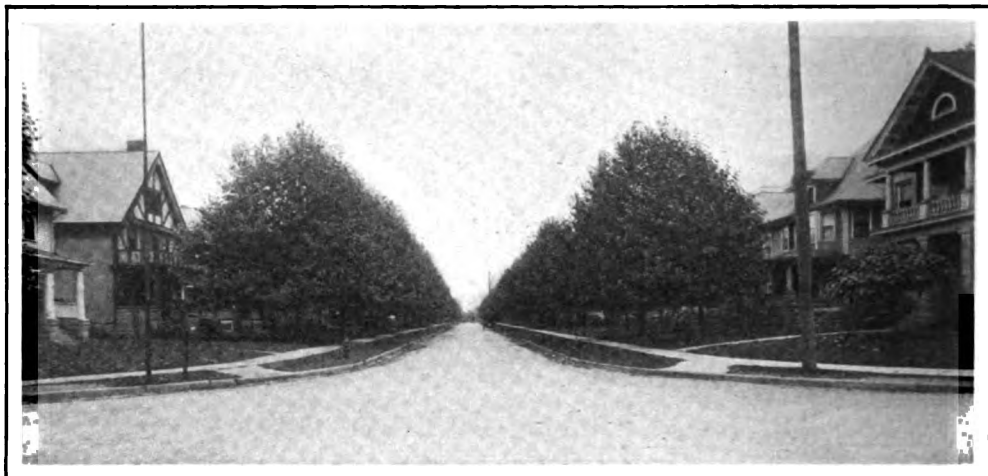


A CHICAGO ALLEY BEFORE CONCRETING



THE IMPROVED APPEARANCE OF THE ALLEY AFTER BEING PAVED WITH CONCRETE

Types of City Streets and Pavements



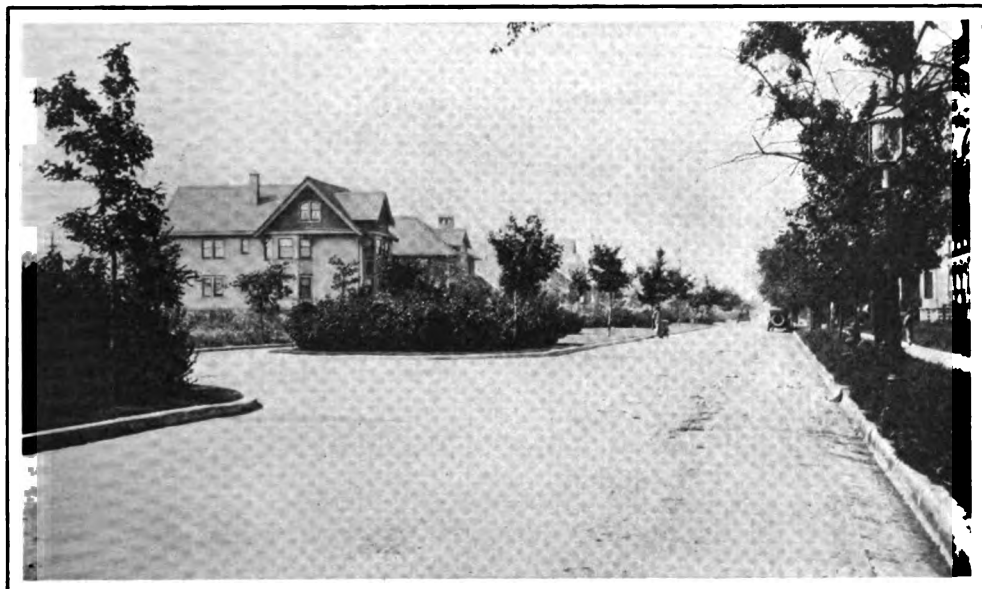
WESTCHESTER AVENUE, CLEVELAND, OHIO

Width between property lines, 60 feet; width of brick pavement, 24 feet; tree lawn, 8 feet wide, with a 5-foot sidewalk. This is one of several similar streets in a block 2 miles square. In this section no trees are planted in the tree lawns, the space being left for conduits and other street utilities



CRESCENT STREET, TORONTO, ONT.

Paved with Rocmac. Width of roadway, 24 feet; of parking strips, 12 feet; of sidewalks, 5 feet



LAYTON BOULEVARD, MILWAUKEE, WIS.

The main boulevard on the city's South Side. It consists of two 30-foot roadways, a 30-foot parked space in the center and a 15-foot parked sidewalk on each side. Paved with bituminous macadam



A VIEW ALONG SELYE TERRACE, ROCHESTER, N. Y.

The street is 60 feet wide, with a 24-foot roadway, 4-inch curbs, 3-foot gutters, 6-foot walks, and 10-foot parkway strips. Paved with asphalt



THE STAGE OF THE PAGEANT, WITH THE THRONES IN THE FOREGROUND

A Peace Pageant

By Mrs. Milton Perry Smith

President, Sioux City (Iowa) Woman's Club

A community entertainment which was recently given at Sioux City, Ia., had for its theme the teaching of constructive peace. Pageantry, "the poetry of the masses," was the vehicle through which the subject was presented, because it combines in the most striking and most lasting way all the poetry, music, art and drama which it is necessary for any community entertainment to contain if its object is educational.

The cause of constructive peace, new, and therefore little understood, had been, though not opposed, still not openly championed, by public opinion in Sioux City; but since the beautiful presentation of the Peace Pageant there is a more intelligent community consciousness of the subject.

The Peace Pageant was written by Miss Cora Mel Patten and Miss Elma C. Erlich of Chicago. In Sioux City it was produced under the personal direction of Miss Patten. It consisted of the processional, the planting of the Peace Tree with a beautiful simple ceremony, and then the pageant proper, which required over 165 speaking parts, besides the music, tableaux and pantomime.

The whole city was interested from the start. The affair was undertaken and managed by the Sioux City Woman's Club, not for money-making purposes, but for the purpose of presenting an educational and inspiring performance in the interest of peace, which through its spectacular nature would reach some minds which could not be otherwise stirred. That this result has been accomplished is evident. An observer,

who said afterwards, "Tell me, what was all this for the benefit of?" was answered by a thoughtful child, "I don't know, but I think we all got the benefit."

Preparations for the Pageant

The cast of the characters was selected in a purely democratic way. A notice was inserted in all the newspapers calling for all who were willing to take the parts—speaking, singing or dancing—to assemble in the public library on a certain day for a test. The applicants were judged according to face, figure, speaking voice, and dramatic ability, and all were given parts. As it was to be a real community performance, social standing was not considered, and in many cases extremes met on the common ground of brotherhood. It was noticeable that the children from the suburb, Smith Villa, came first, and in greater numbers than from any other neighborhood. This was due to the fact that for the last twelve years the grown people and children of this vicinity have held annually a community festival in their own Children's Park, and have become so saturated with the community spirit that whenever there is a park entertainment they take it for granted, without being told, that they are needed, and they come cheerfully.

The coöperation of the Commissioner of Parks and Public Property was first sought and proved to be most valuable, as it carried with it the skillful services of the Superintendent of Parks and his force of

gardeners. The latter officer designed and personally directed the construction of the two beautiful rustic thrones used in the performance.

The Processional

The performance began just before sunset and continued about two hours, when darkness drew the closing curtain upon the lovely scene. The audience of over 4,000 were seated upon the grassy slope of the hillside in Grand View Park. Hundreds of automobiles took position on the drive skirting the rim of this great green amphitheatre. The stage setting was ideal, and was left absolutely untouched by any artificial devices, as it needed none. A dense growth of young Russian olive trees formed the background and wings, while another thick clump of the same bushes sheltered the orchestra. In the foreground to the left of the stage a hole was dug in the ground, awaiting the coming of the Peace Tree.

The processional started from the pergola on the hill beyond the rear of the stage (dimly outlined in the picture) down the

hill to the right, and circled around the small lake, where they were lost from the view of the audience for a short time, appearing suddenly again out of the foliage and advancing towards the stage. It was a long, brilliant, motley crowd of historical, allegorical, and fantastic figures, dancing girls, forty-two nations with their flags, and cunning little citizens of peace carrying the national banners. In the train came Peace, a beautiful fair-haired girl, carrying the customary white dove. Behind her, a sturdy young evergreen tree was borne by eight boys and girls dressed in pure white. When they reached the spot prepared to receive it, a halt was made and the children began their ceremony. A beautiful white box containing thousands of peace pledges which the children had signed was placed in the earth at the foot of the tree. A young girl in white stepped forward and delivered the following simple little speech:

"Friends: We, the young people of Sioux City, are going to present a pageant to-day telling of those who toiled and suffered that peace



A SCENE IN THE PAGEANT
Father Time in the center, standing between Faith and Fear

might come—and of her coming at last. Now, we do not wish this pageant to pass like a dream in the night. We, who are strong in youth and in hope, wish to place in this park a remembrance of what you shall see to-day—a symbol of our young hopes. May it remain a memorial in our midst forever.”

At the conclusion of the ceremony a large white-bordered American flag was unfurled, a gift to Grand View Park from the Sioux City Woman's Club.

The Pageant

The pageant proper then took place, divided into three episodes, but without any perceptible intermission. The first episode is a beautiful pastoral scene, in which the tribes of primitive-earth men and women with their children about them join in simple dances and pleasant fellowship. Father Time sits on his throne attended by Faith and Fear, the two opposing forces which supply the conflict running all through the drama. Into the happy scene steals Fear, awakening distrust among the tribes-men and urging them to prepare themselves for war.

Presently a short and severe conflict takes place, in which many are killed and carried off the field. Mother Earth moans and wails for the desolation which has come upon her children. War is glad and laughs diabolically; then summoning his Furies—Violence, Famine and Death—he strides off triumphant.

The second episode introduces the Spirit of Prophetic Peace, one of the most important figures in the pageant. He introduces one by one the Builders of Peace, those who, through the long ages have toiled that peace might come. They are thirty-three in number, among them Henry of Navarre, William Penn, Benjamin Franklin, George Washington, Thomas Jefferson, Victor Hugo, Abraham Lincoln, Leo Tolstoi, William T. Stead, Frances Willard, Jane Addams, Baroness Von Suttner, and many others. In the midst of the group of women workers Fear enters, saying, “Shall puny women drive war from the earth?” Faith promptly answers with dignity, “They conquer through their very womanhood.”

A striking climax is reached in the third episode. Father Time, rising on his throne, says, “Is it not time for Peace?” Thereupon Columbia advances with her standard bearer, carrying the peace flag. The band

played America and the whole audience arose, and afterwards sang together “Beautiful America,” which seemed particularly appropriate for a community song in the middle western states.

O, beautiful for spacious skies,
For amber fields of grain,
For purple mountain majesties
Above the fruited plain!

America! America!

God shed his grace on thee,
And crown Thy good with brotherhood
From sea to shining sea.

The children of the nations ask Columbia to “call the world to peace!” The New Mother, representing the women pacifists of America, enters leading the New Child, who represents the rising generation. After an extended dialogue among the nine leading nations, the New Child extends his little hands, and all the nations lay their swords in his arms. He carries the bundle of swords up to the throne and lays them at the feet of Father Time. The beauty and sublimity of this ceremony, in which the simple child was the central figure, were deeply impressive, and many eyes were filled with happy tears. One man, who had been ashamed to wear a peace pin where it would be seen, quietly unfastened his pin from underneath his coat lapel and put it on the outside, where it has remained ever since. The visualization of the central idea of peace, presented in such a dramatic form, did more for the cause than a whole series of sermons and lectures on the subject.

The City's Response

The value of pageantry to the community is now an accepted fact, and when it is coupled with a great educational motive the beneficial result can hardly be estimated. It is a matter of pride to the director and organizers of this peace pageant that the whole city responded so promptly to an undertaking the nature of which was not at all well known. There had never been any pageantry in the city before, nor even any entertainment in this particular park, which is a new acquisition. But from the first the newspapers gave columns of space to free announcements, pictures of those who were to take part, and later of the performers in their costumes. The city officials, especially the park force, gave valuable aid in constructing the rustic

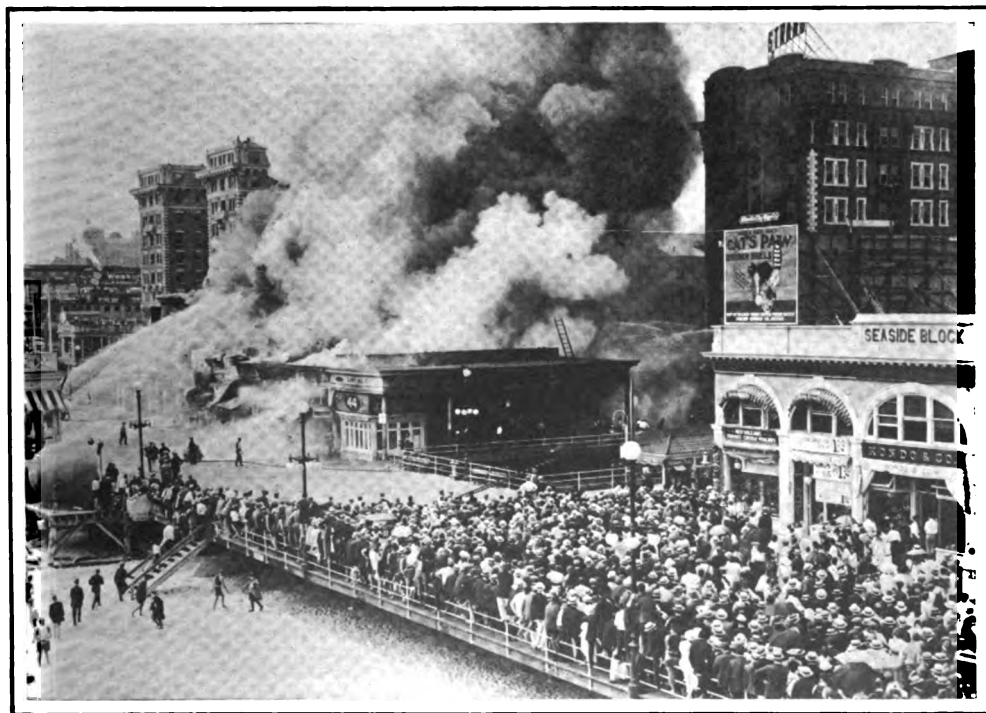
thrones; the school teachers drilled the children, the orchestra and the best singers in the city gave their services free of charge, and the club women, of course, by the hundreds were filling in all the gaps. The principal business houses placed blue and white peace pennants upon their street decorations and on all delivery wagons. On the day of the celebration these pennants were flying from automobiles all over town. Pageant headquarters were established in a leading jewelry store, where, all the week, peace pins, peace pennants, librettos, tickets, etc., were sold. The peace pins were sold for two cents each, so everybody wore them.

Protecting the Tree

The pageant closed just at nightfall. As if awed to silence by the splendid spectacle and its embodied lessons, the crowd passed out of the park in silence. As I moved

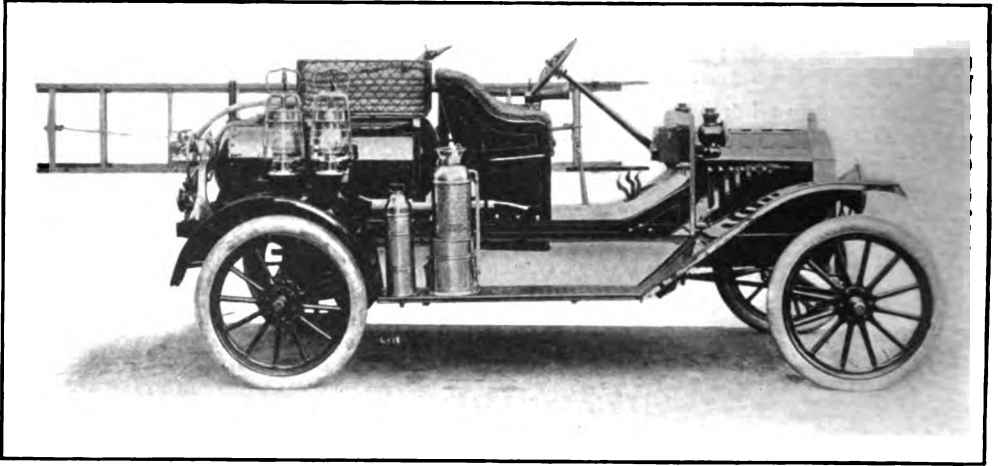
along with the crowd surging between the stage and the orchestra, I noticed an obstruction directly in the center of the moving mass of people. Nearing the place, I made out the figure of a man, standing slightly stooped, but firmly resisting the bumps which came upon his back from those stumbling forward in the darkness. Coming closer, I discovered the nature of the obstruction. It was a workman leaning forward, shovel in hand, guarding the young Peace Tree. Had it not been for this man and his voluntary protection, the life of the little Peace Tree would have been crushed out, trodden under foot of man. As it is, though transplanted in the middle of July, it bids fair to grow and live long, and be, as the child said: "A symbol of our young hopes, as the years lengthen into decades and we, who are young to-day, shall stand beneath its boughs, gray-haired men and women."

A Spectacular Fire in Atlantic City

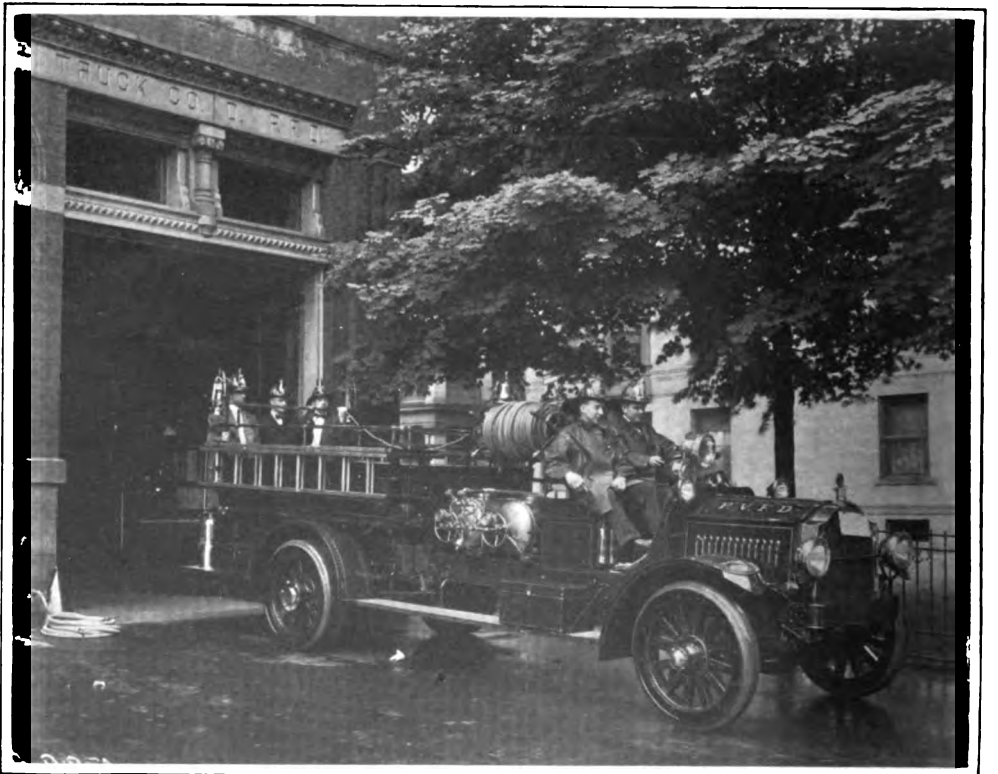


THIS FIRE, WHICH OCCURRED ON AUGUST 20, DESTROYED IN A SINGLE HOUR 12 SHOPS ON THE BOARDWALK IN ATLANTIC CITY, WITH A LOSS OF APPROXIMATELY \$100,000

Four Recent Developments in

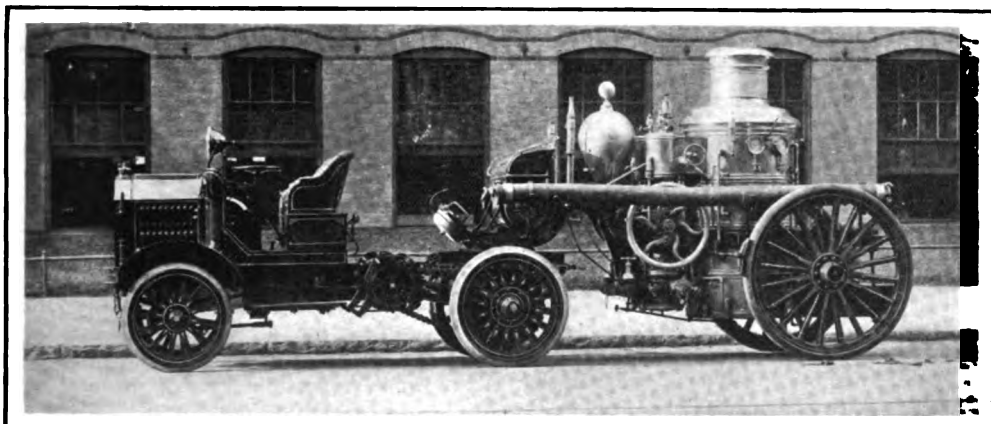


THE AMERICAN-LA FRANCE CAR, WITH FORD CHASSIS, FOR USE IN SMALL COMMUNITIES

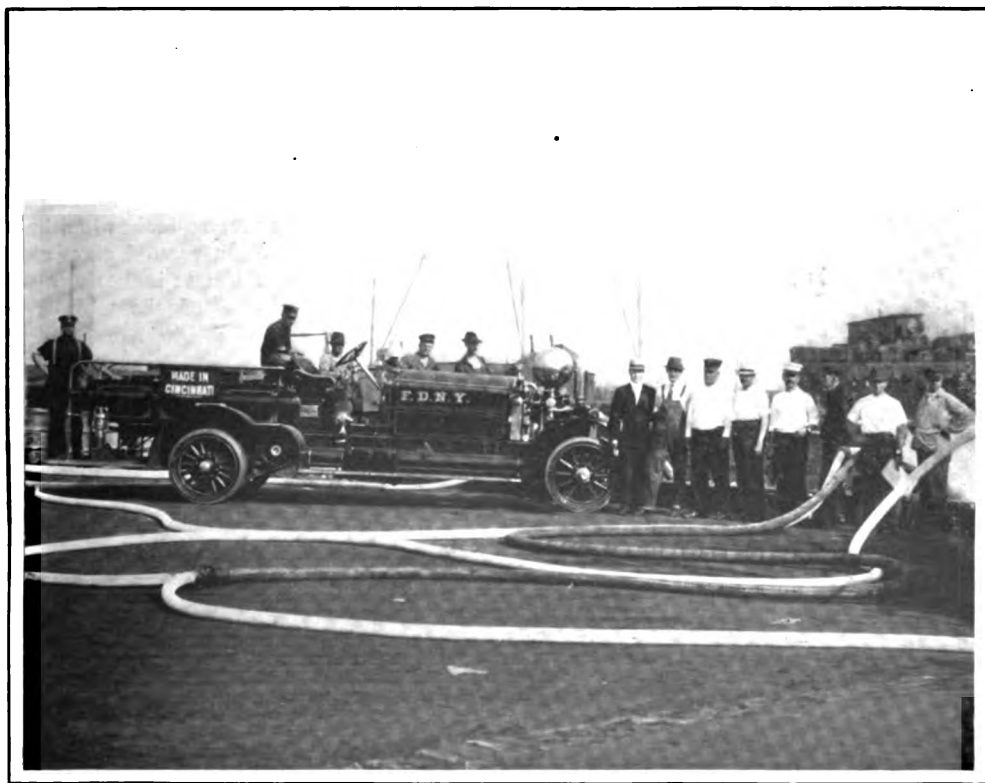


PACKARD CHAINLESS MOTOR TRUCK WITH FIRESTONE TIRES, IN USE IN PARNASSUS, PA.

Motor Fire Apparatus Design



**KNOX FOUR-WHEEL TRACTOR WITH GOODYEAR TIRES, SHOWING ITS
AVAILABILITY FOR HAULING FIRE APPARATUS**



**LATEST TYPE OF AHRENS-FOX ENGINE, BEING TESTED BY THE NEW YORK
FIRE DEPARTMENT**

Items of Municipal and Civic Progress

City Hall Switch-Board

One of the innovations introduced by Fred M. Lockwood, Manager of Operation under the recent amendments to the charter of the city of San Diego, Cal., has been the installation of a central telephone switch-board in the city hall.

Prior to this installation there had been thirty individual telephones in the various offices, for which the city was paying \$5 each per month.

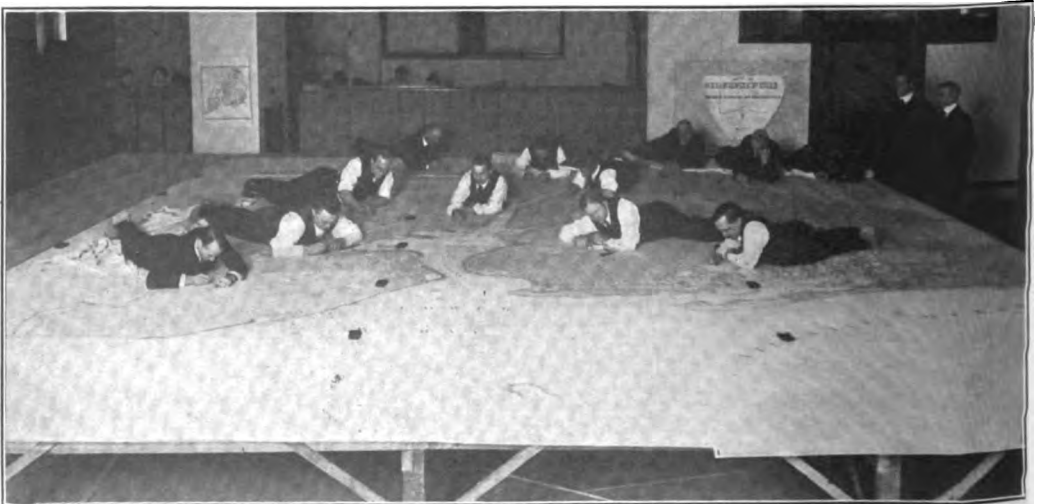
Under the new arrangement six trunk lines are run into the switch-board, the total cost of which was \$32.50. There are thirty stations on the switch-board, the cost of which is \$1 each per month. There is an operator whose salary is \$60 per month. Taking the monthly cost of the thirty stations and the salary of the operator together, the cost is \$90 per month, as against \$150 per month under the old scheme.

Included in the service from the central switch-board are two outside lines, one running to police central station and one to headquarters of the chief of the fire department.

The New Map of the City of New York

A recent number of *The Municipal Engineers' Journal* (New York) describes the making of the new official map of the city of New York. The map was recently completed under the direction of Nelson P. Lewis, Chief Engineer of the Board of Estimate and Apportionment of New York City, and is now available. It comprises a total area of about 973 square miles. This area was divided into 21 sheets each covering a territory having a length of 57,708.4 feet and a width of 25,426.3, this including an allowance on the perimeter of the map of 5,400 feet for the border, the actual size of the sheet being 8.01 feet by 3.53 feet on the scale of 600 feet to the inch.

To transfer the map from the index sheets, illuminated tables were secured with a working top 4 feet 6 inches by 3 feet 6 inches, from which an interior area of 3 feet 10 inches by 2 feet 10 inches had been cut away. In this top a ground glass plate 3 feet 11 inches by 2 feet 11 inches was set. The sides and bottom of the table were



WORKING ON THE NEW MAP OF THE CITY OF NEW YORK

boxed in and equipped with three 100-watt Mazda lamps. With this powerful illumination under the copy it was possible to trace through two thicknesses of heavy paper with results quite equal to those obtained in making ordinary tracings.

Another convenience was a low platform, about 27 feet by 28 feet, with a smooth surface, on which it was possible to assemble the sheets in order to properly judge not only the map as a whole, but also the effect of lettering common to several sheets, as well as to finally unite the edges of the separate sheets. The accompanying illustration is of this operation.

All the city departments coöperated in furnishing information concerning territory within the city limits, even to the extent of making original surveys.

In the absence of a suitable civil service eligible list, all applicants for employment who succeeded in presenting a sample of their work satisfactory in quality and in the element of speed, were given employment. The maximum force at any one time was 22, this necessitating shifts for day and night work, which greatly expedited progress and also made extra equipment unnecessary. Printed instructions were given to all draftsmen, and their observance resulted in avoidance of confusion and insurance of accuracy.

The preparation of the city map was begun June 30, 1914, and completed February 15, 1915. The map, as a whole, has been lithographed on a scale of 2,000 feet to the inch in twelve sections, and the completed lithographed map measures 7.4 feet by 7.12 feet. Copies are available for public use, the cost to the public being \$4 for single copies and \$3 in lots of 25 or more.

Mr. Arthur S. Tuttle, Deputy Chief Engineer, Board of Estimate and Apportionment, was in direct charge of the work.

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Safety-First Instruction to Children

The public school children of New York City are being instructed in safety-first principles. Through the coöperation of the Police Department with the Board of Education, police sergeants are sent to the schools to deliver fifteen-minute talks to the children at the 9 o'clock assembly on such subjects as the prevention of street accidents and the dangers of bonfires. They also explain why the police have to break up certain games on the street, and point out

the results of mischievous acts. The children are taught to overcome their fear of the policemen and to regard them as their friends. Good results of the work are said to be already apparent in the better understanding which exists between children and the police.

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"Municipal Improvements" in Sunday Editions

The *Pittsburgh Gazette Times* published during the past summer an article on municipal improvement in each of five consecutive Sunday editions. The articles were published at the instance and under the direction of the Art Commission of Pittsburgh and covered five divisions of the subject: (1) Comprehensive City Planning, (2) Development of Business Districts, (3) Development of Residence Districts, (4) An Ideal Park System, and (5) Development of the Water-Front.

An attempt was made to present the matter in a form that would appeal to the average newspaper reader. Post-card announcements calling attention to the articles were sent to the various civic and commercial organizations in the city in the hope that those bodies might derive some indirect benefit from them, and that they might lead to the presentation of illustrated lectures on the same topics at some later time.

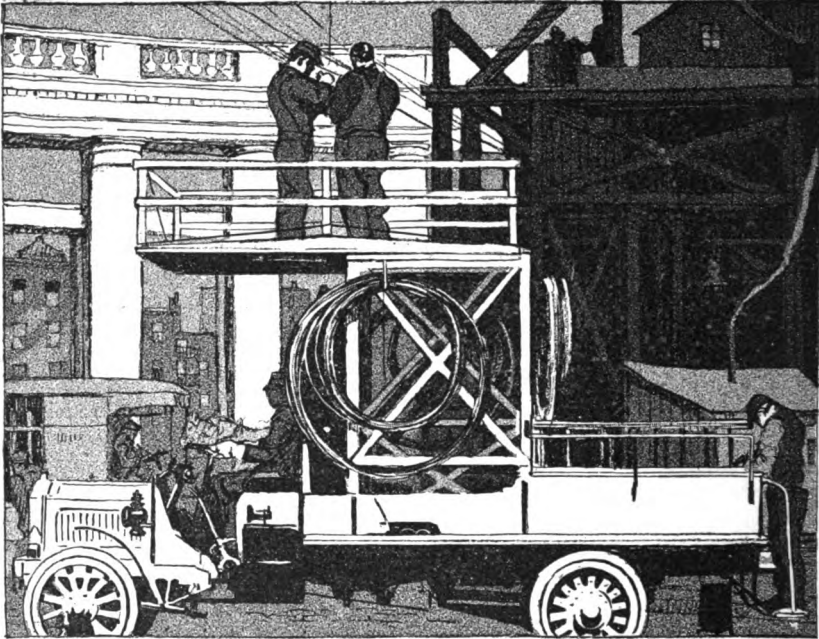
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Shall Schools be Closed During Epidemics?

Doubt as to the wisdom of closing schools during epidemics of contagious diseases is expressed by Dr. Francis George Curtis, of Newton, Mass., in a bulletin on the "Health of School Children," which has been issued by the United States Bureau of Education. Dr. Curtis says:

"If the schools are closed when an outbreak occurs, the children are turned loose from supervision; they mingle freely with one another in the streets, on playgrounds, and in each other's houses. They are having an extra vacation and enjoying themselves thoroughly, and are unwilling to admit that they feel ill, lest they be kept at home and prevented from having a good time. For this reason they will not say they feel ill until the disease is well advanced, and they may be active sources of infection for some time before it is discovered that they are ill.

"If the schools are kept open and the children continue in the class rooms as usual, they are under strict observation and examined daily by the school physician, suspicious and infected cases being sent home for observation or treatment."



**FORTY CITIES EMPLOY
PROFITABLY 81**

Packard

**TRUCKS IN MUNICIPAL
SERVICE OF ALL KINDS**

PACKARD NEW TYPE CHAINLESS TRUCKS, in seven sizes—1, 1½, 2, 3, 4, 5 and 6-ton units—constitute the only complete line of silent up-to-date chainless trucks. All models are uniform in design, with special chassis lengths and speeds as will be most advantageous in the work for which they are selected. Let us send you a catalog.

PACKARD MOTOR CAR COMPANY, *Detroit*

Conventions and Exhibitions

ON THE CALENDAR

- OCTOBER 6-8.—MINNEAPOLIS, MINN.**
National Housing Association. Secretary, Lawrence Veiller, 105 East Twenty-second Street, New York City.
- OCTOBER 6-8.—NORTH YAKIMA, WASH.**
League of Washington Municipalities. Secretary, Dr. Herman A. Brauer, University of Washington, Seattle, Wash.
- OCTOBER 8.—BOSTON, MASS.**
The American School Hygiene Association. Secretary, Thomas A. Storey, M. D., College of The City of New York, New York City.
- OCTOBER 11-12.—DAYTON, OHIO.**
National Paving Brick Manufacturers Association. Secretary, Will P. Blair, 824 Locomotive Engineers Building, Cleveland, Ohio.
- OCTOBER 11-16.—NEW YORK CITY.**
Exhibition of Street Cleaning Apparatus and Appliances. To be held under the auspices of New York Department of Street Cleaning, J. T. Fetherston, Commissioner.
- OCTOBER 12-13.—FREDERICKSBURG, VA.**
League of Virginia Municipalities. Secretary, Luther C. Brinson, Portsmouth, Va.
- OCTOBER 12-15.—DAYTON, OHIO.**
American Society of Municipal Improvements. Secretary, Charles Carroll Brown, 702 Wulsin Building, Indianapolis, Ind.
- OCTOBER 13-15.—HUTCHINSON, KAN.**
League of Kansas Municipalities. Secretary, C. H. Talbot, University of Kansas, Lawrence, Kan.
- OCTOBER 13-15.—BLUEFIELD, W. VA.**
Southern Appalachian Good Roads Association. Secretary, C. B. Scott, Richmond, Va.
- OCTOBER 19-21.—PHILADELPHIA, PA.**
Fourth Annual Safety Congress of the National Safety Council. Secretary, W. H. Cameron, Continental and Commercial Bank Building, Chicago, Ill.
- OCTOBER 21-22.—VIRGINIA, MINN.**
League of Minnesota Municipalities. Secretary, Prof. Richard R. Price, University of Minnesota, Minneapolis, Minn.
- NOVEMBER 4-5.—ALBANY, N. Y.**
North Atlantic Conference on Tuberculosis. Address National Association for the Study and Prevention of Tuberculosis, 105 East Twenty-second Street, New York City.
- NOVEMBER 10-12.—PHILADELPHIA, PA.**
American Association for the Study and Prevention of Infant Mortality. Executive Secretary, Miss Gertrude B. Knipp, 1211 Cathedral Street, Baltimore, Md.
- NOVEMBER 10-13.—PHILADELPHIA, PA.**
Conference on Valuation Principles and Methods. Held under the auspices of the Utilities Bureau of Valuation. Acting Director, Morris Llewellyn Cooke, City Hall, Philadelphia.
- NOVEMBER 11-12.—GREENVILLE, TEX.**
League of Texas Municipalities. Secretary, Prof. H. G. James, University of Texas, Austin, Tex.
- NOVEMBER 16-18.—HARRISBURG, PA.**
Third Annual Pennsylvania Industrial and Public Welfare and Engineering Conference. Under the auspices of the State Departments and The Engineers' Society of Pennsylvania. Director of Exhibits, Paul Gendell, 31 South Front Street, Harrisburg, Pa.
- NOVEMBER 17-19.—DAYTON, OHIO.**
National Municipal League. Secretary, Clinton Rogers Woodruff, North American Building, Philadelphia, Pa.
- DECEMBER 1-3.—WASHINGTON, D. C.**
American Institute of Architects. Secretary, Burt L. Fenner, 101 Park Avenue, New York City.
- DECEMBER 7-10.—NEW YORK CITY.**
American Society of Mechanical Engineers. Secretary, Calvin W. Rice, 29 West Thirty-ninth Street, New York City.
- DECEMBER 13-17.—CHARLESTON, S. C.**
Southern Commercial Congress. Managing Director, Clarence J. Owens, Southern Building, Washington, D. C.
- DECEMBER 27-JANUARY 1.—COLUMBUS, OHIO.**
American Association for the Advancement of Science. Secretary, Dr. L. O. Howard, Smithsonian Institute, Washington, D. C.

† †

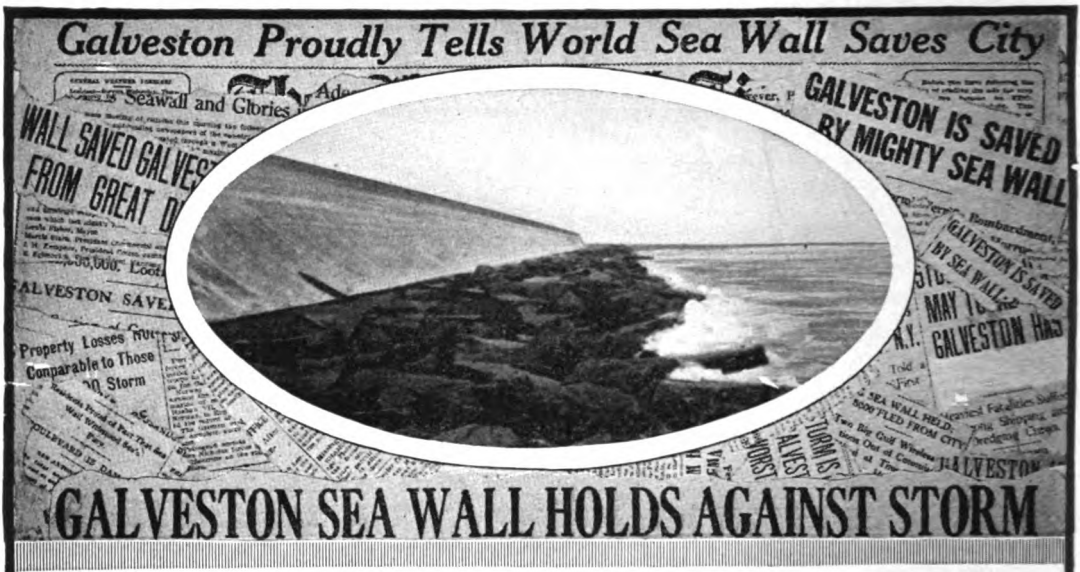
American Association of Park Superintendents

The seventeenth annual convention of the American Association of Park Superintendents occurred in San Francisco, August 18-20, sessions being held in the new municipal auditorium.

New Orleans was selected as the city in which the 1916 convention will be held, the time to be decided by the Executive Committee, but October as the month tentatively agreed upon.

The following officers were elected for the ensuing year:

President Emil T. Mische, Portland, Ore.
 Vice-Presidents—J. W. Thompson, Seattle, Wash.; John T. Walsh, New York City; Alexander Stuart,



WHEN Galveston was at the mercy of another great tropical gale, when ships were being blown ashore and all communication with the mainland was cut off, the question everywhere was: Will the concrete sea-wall, erected to insure Galveston from destruction, stand the brunt of the storm as it did in 1909?

Newspaper headlines and dispatches tell the story. Once more the great wall, in which were used 28,500 barrels of

ALPHA THE GUARANTEED PORTLAND CEMENT

stood the lashing and the battering of the gale, and is credited with having saved Galveston.

ALPHA CEMENT has been used in a large number of constructions where concrete had to meet unusual conditions and cement of the highest grade was required. ALPHA CEMENT represents 24 years of experience in cement-making and is tested by expert chemists every hour, day and night, during its manufacture.

Every bag of ALPHA you buy is sure to be as good as that used in building the Galveston Sea Wall. The six great ALPHA plants have a daily capacity of 25,000 barrels. Leading building-material dealers can supply you.

Art Envelope No. 2 showing views of notable concrete constructions and 80-page hand-book, "ALPHA CEMENT—HOW TO USE IT," sent on request.

ALPHA PORTLAND CEMENT COMPANY General Offices: **Easton, Pa.**
Sales Offices: New York, Chicago, Philadelphia, Boston, Pittsburgh, Buffalo, Baltimore, Savannah



Ottawa, Canada; Emmett P. Griffin, East St. Louis, Ill.; Eugene V. Goebel, Grand Rapids, Mich.; L. P. Jensen, St. Louis, Mo.

Secretary-Treasurer—Roland Cotterill, Seattle.

Twenty-four new members were admitted to membership, the by-laws were amended to require five years' practical experience as a qualification for active membership, and the admission fee was raised to \$10.

✦ ✦

Pan-American Road Congress

At a session of the Pan-American Road Congress on September 17, at Oakland, Cal., a committee of seven was appointed by the American Highway Association to work on a plan for consolidation of the four organizations comprising the Congress, with the idea of "bringing into closer relation the efforts for road improvement in the eastern and western portions of the United States." The four organizations included are the American Road Builders' Association, the American Highway Association, the Tri-State Good Roads Association and the Pacific Highway Association. The members of the committee are S. E. Bradt, Illinois; W. R. Roy, Washington; A. B. Fletcher, California; W. D. Sohler, Massachusetts; T. H. MacDonald, Iowa; W. E. Atkinson, Louisiana; G. P. Coleman, Virginia; and F. F. Rogers, Michigan.

The committee will take up the question with similar committees from the other or-

ganizations represented, and will report to the board of directors before the next convention.

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American Highway Association

At its annual meeting, held in Oakland on September 17, the American Highway Association elected the following officers and directors:

President, Fairfax Harrison, President of the Southern Railway; First Vice-President, Logan Waller Page, District United States Officer of Public Roads and Rural Engineering; Treasurer, John Burke, Treasurer of the United States. Directors: J. H. MacDonald, former State Highway Commissioner, Connecticut; E. J. Mehren, Editor of the *Engineering Record*; George L. Cooley, State Highway Engineer, Minnesota; Joseph H. Pratt, member North Carolina State Highway Commission; Henry G. Shirley, State Highway Engineer, Maryland; W. T. Beatty, manufacturer, Chicago; and C. R. Kenyon, President of the Indiana Good Roads Association.

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League of California Municipalities

At the closing business session of the convention of the League of California Municipalities, at Oakland, Cal., on September 10, Allen H. Wright, City Clerk of San Diego, was elected president, and Visalia was decided upon as the place of the next convention. The other officers elected are as follows:

First Vice-President, Wallace Rutherford, City Attorney, Napa; Second Vice-President, Lorin A. Handley, President of the Board of Public Works, Los Angeles; Secretaries, H. A. Mason, board and ordinance expert of the Board of Supervisors, San Francisco, and W. J. Locke, President of the Bureau of Municipal Reference, Alameda.

Municipal and Civic Publications

Copies may be ordered of THE AMERICAN CITY, with the exception of Government publications and those indicated as free, which should be ordered direct from the offices publishing them

BATESON, WILLIAM, A. C. A., F. S. A. A., Borough Treasurer for the County Borough of Blackpool, Editor, Assisted by Many Experienced Authorities on Municipal Work and Practice.

Municipal Office Organization and Management: A Comprehensive Manual of Information and Direction on matters connected with the work of Officials of Municipalities. xix + 483 pp. Quarto. About 250 diagrams and forms. 1915. \$8.00

In response to a wide demand for a handy work of reference on municipal questions, this work has been compiled by the editors with the hope that it "may tend to the establishment of uniformity of administration." It is the first attempt in England to bring together in a concrete form an adequate compilation on the technique of municipal administration, organization and office management. Even the details of office equipment—filing systems, mechanical devices, printed

forms, etc.—are illustrated and discussed. The book is divided into 25 sections; the first, "Organization in General," by William Bateson, treats of the need for efficient organization and how such a system should be developed in the various ramifications of public service. The remaining sections, which are concerned principally with the separate departments of municipal government, are as follows: II and III, by William Bateson, "Collecting and Recording Statistics" and "Office Equipment"; IV, "The Town Clerk's Department," by Arthur S. Wright, Chief Clerk, Town Clerk's Department, City Borough of Blackpool; V, "Finance Department," by William Bateson; VI, "Finance Department (Local Taxation Licences)," by Harold Greenwood, Borough Treasurer's Department, County Borough of Blackpool; VII, "Finance Department (Printing and Stationery Branch)," by William Bateson; VIII, "Public Health Department," by Fred Berry, C. R. S. L., Chief Clerk, Public Health Department, City Borough of Blackpool; IX, "Police Department," by W. J. Pringle, Chief Constable, County Borough of Blackpool; X, Parks and Pleasure Grounds," by Percy Farnsworth, Borough Treasurer, County Borough of Bolton, who is also responsible for the sections on "Cemeteries and Rural Grounds," "Baths and Wash-Houses" and "Markets and Fairs"



They might have been saved

had proper precaution been
taken to inspect the water-
mains. Why?

When the fire broke out, every means was used to fight it, but the pressure in the clogged water mains was inadequate to feed the pumping engines. Unnecessary loss of property followed.

Water mains need not remain clogged with dirt. They can be made like new through cleaning them by

The National Method

The cost is small—far less than laying new pipe. Besides, it eliminates all danger of poor water-pressure from dirt and filth in the mains.

Thousands of dollars' worth of property in your city may be in danger of

fire because you have failed to inspect the condition of your water mains. Investigate now. Look into the future. Prevent the disaster before it happens.

Write to us to learn how.

National Water Main Cleaning Co., Hudson Terminal Building
NEW YORK CITY

(Sections XI to XIII); XIV, "Old Age Pension Acts, 1908 and 1911," and XV, "National Insurance Acts, 1911-1913," by William Bateson; XVI, "Public Libraries," by Walter Powell, Chief Librarian, Birmingham Public Libraries; XVII, "Gas Department," by E. Cooke, Accountant, Birmingham Corporation Gas Department; XVIII, "Electricity Department," by "An Expert"; XIX, "Tramways Department," by S. B. N. Marsh, Accountant, Birmingham Corporation Tramways; XX, "Waterworks Department," by Frederick J. Alban, F. S. A. A., A. C. I. S.; XXI, "Justices' Clerks Department," by R. Eccleshall, Justices' Clerks Department, Birmingham; XXII, "Housing and Town Planning," by W. S. Body, Town Clerk's Office, Birmingham; XXIII, "Education Department," by J. E. Pickles, Director of Education, County Borough of West Bromwich; XXIV, "Surveyors' Department," by "An Administrative Official"; XXV, "Sewage Disposal Department," by J. D. Watson, Engineer and Manager, Birmingham Town and Rea Drainage Board.

MUNRO, WILLIAM BENNETT, Professor of Municipal Government in Harvard University.

A Bibliography of Municipal Government in the United States. 472 pp. 1915. \$2.50

Professor Munro's preface explains his conception of the function of a bibliographical work as follows: "A satisfactory bibliography of municipal government ought to contain references: (a) to discussions of an elementary character for the benefit of general readers; (b) to detailed discussions and semi-technical treatises such as are likely to prove useful to the special student of the subject, and (c) to more elaborate bibliographical lists for the use of those who desire contact with all the materials on any particular phase of the subject." In addition to this, Professor Munro states that "a distinct preference has been given to those reports and discussions which deal with American problems in the light of our own conditions and experience," which references to European materials have been incorporated "wherever a substantial reason for so doing has appeared." The preference has been given largely to works of recent date, and the question of accessibility has been considered. The book is divided into 9 chapters, as follows: General [Reference] Works; Political Machinery and Direct Legislation; Municipal Organization; City Planning and Public Improvements; Public Utilities; Sanitation and Public Health; Public Safety; Education and General Betterment, and Municipal Finance. These general heads are further divided into 76 subheads. In many cases the actual book references are followed by concise descriptive sentences. An admirable 53-page index to authors and subjects may be used by the student in conjunction with the table of contents for the speedy location of references.

HITCHLER, THERESA, Superintendent of Cataloging, Brooklyn Public Library.
Cataloging for Small Libraries. Revised Edition. 316 pp. Drawings and diagrams. 1915. \$1.25

The object of this book is to put at the disposal of those in charge of small libraries the information gained by the wider experience obtained in the large city libraries. The first part deals with general principles: the accession book, entries by author, title and subject and cross references. Chapter 7 discusses the ways of recording pseudonyms and initials; Chapter 8, anonymous books; Chapter 9, joint authors; Chapter 10, periodicals; Chapter 11, cyclopedias and dictionaries; Chapter 13, sacred books and anonymous classics; Chapter 14, corporate entries; Chapter 15, editors, translators, illustrators, etc. In Chapter 16 the question of "analytics" is taken up—the making of separate cards when more than one author or subject is included in one book. Serial publications are next treated, and in Chapter 18 various kinds of titles are considered. The last seven chapters treat of biography, added editions, supplements and continuations, bibliographies, etc. Noteworthy is the section on bibliographical and typographical terms with definitions, also the list of books under the heading "Reference Aids for the Cataloguer." The book contains numerous illustrations of properly made out index cards, which enable the reader to grasp the methods dealt with quickly and easily.

BENNETT, HELEN CHRISTINE.

American Women in Civic Work. 277 pp. Illustrated with portraits. 1915. \$1.25

The eleven chapters of this book include interesting sketches of Jane Addams, Caroline Crane, Sophie Wright, Kate Barnard, Albion Bacon, Hannah Schoff, Frances Keller, Julia Tutwiler, Lucretia Blankenburg, Anna Shaw and Ella Young. Each of these persons—well known for some signal contribution in service—is treated in a direct and sympathetic manner from the point of view of things actually accomplished. How Hull House was started; where Kate Barnard obtained her inspiration, and how Anna Howard Shaw worked her way up from a log cabin in the Michigan woods to her present position of fame, are among the accounts given. A photograph of the subject of each chapter is inserted in the text.

CITY OF NEW YORK.

Municipal Year Book of the City of New York, 1915. (Prepared under the Direction of the Chamberlain for Distribution by the Municipal Reference Library.) 155 pp. 1915. 15 cents

The object of the Year Book, according to Chamberlain Bruere's Foreword, is "to present in concise and intelligible form the more important facts relating to the city government." Made possible by the joint efforts of the city departments and the Municipal Reference Library, the book should be of great value and assistance not only to citizens of New York but also to officials and citizens elsewhere who are interested in the city administration. Mayor Mitchel in a short introduction tells of the origin of the publication—the "Manual of the Corporation of the City of New York," compiled annually by the city clerk from 1841 to 1870—and of the revival of this publication during the last year of his predecessor's administration as the Municipal Year Book. There are thirteen main sections in the book dealing with the various departments of the city administration and with the executive, legislative and judicial functions. In addition there is a section devoted to "Miscellaneous Activities" and one to "County Offices." The last division contains a number of statistical tables concerning budget appropriations, tax rates, assessed values, area and mileage, birth and death rates, etc. A directory of the different city offices follows and a good index furnishes the key to the whole.

RYAN, OSWALD, of the Indiana Bar, formerly of the Department of Government, Harvard University.

Municipal Freedom: A Study of the Commission Government. (Introduction by A. Lawrence Lowell, President of Harvard University.) 233 pp. 1915. 65 cents

Pointing out how the principle of "checks and balances" in the American constitution, although intended as a curb on the arbitrary and ill-advised acts of public officials, "became instead an obstacle to the wise and salutary measures of men who had at heart the best interests of the people," the book discusses commission government reform, and points to it as the first step in achieving municipal freedom. Nine compact chapters deal with the important features of municipal reform—efficiency, fixing responsibility, changes in organization, vitalizing the ballot, the party system, etc. A valuable Appendix comprises four sections as follows: I, "The Des Moines Plan as Provided by the Iowa Commission Government Act"; II, "The Commission-Manager Plan as Outlined in Selected Sections of the Dayton Charter"; III, "Preferential Voting as Provided in the Charter of Grand Junction, Colorado," and IV, "Selected References on Commission Government." This book is one of a new series entitled "The American Books," of which 5 volumes have been published and which purposes to deal with vital problems of the day.

CITY OF CLEVELAND, DEPARTMENT OF PUBLIC UTILITIES, DIVISION OF LIGHT AND HEAT.
The Cleveland Municipal Lighting Plant. (Bulletin No. 1.) April, 1915. 26 pp. Photographs and diagrams. Free

SANITATION

While our "CANCO" garbage can in point of appearance and strength of construction is without a peer, yet our equipment—the most comprehensive in the country—is such that we can make any sort of garbage container at short notice.

We shall be pleased to estimate on any city or park requirement.

AMERICAN CAN COMPANY

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WITH OFFICES IN ALL LARGE CITIES

NATIONAL BOARD OF FIRE UNDERWRITERS.

Building Code Recommended by the National Board of Fire Underwriters, New York. An ordinance providing for fire limits, and regulations governing the construction, alteration, equipment, repair or removal of buildings or structures. Fourth Edition, completely revised. 1915. 326 pp. Illustrated. **Free**

The fourth revised edition of the Building Code recommended by the National Board of Fire Underwriters brings this important work up to date in regard to recent developments, and offers to the public "a safe, practical, conservative building ordinance which represents the best engineering practice of the day." Three new features of this edition will prove of more general interest: (1) The use of numerous notes in the text to serve either as recommendations, cautions or explanations; (2) the introduction of cuts illustrating details of construction, and (3) the use of frequent cross references in the text to aid the reader to quickly find allied subjects. The object of these changes has been "to make the Code a guide or textbook for the use of Commissions engaged in drafting building ordinances [by covering] all the essential features of construction which such a Commission would be likely to discuss."

HUTTON, WILLIAM.

Country Plumbing Practice. 310 pp. Drawings, Diagrams and Photographs. 1914. **\$2.00**

The purpose of this book, as stated in the introductory note, is "to offer some assistance in designing and installing the various appliances necessary for the supply of water by gravity or mechanical power and for the disposal of sewage and kitchen wastes by the biological process." Further, "The maintenance of the appliances in proper repair has also received consideration, and it has been the intention throughout to arrange the subjects treated in a manner which would appeal to the men who are most likely to require assistance—the plumbers who are called upon to install or repair any of the hundred and one appliances which the requirements of local conditions may entail." The text is copiously illustrated with section and cross section drawings, diagrams and photographs, which serve as a continuous commentary on the text, emphasizing and explaining the more difficult problems.

THE SOCIAL RESEARCH SERVICE, 150 Pine Street, San Francisco, Cal.

The Single Tax Index. Vol. I, No. 1. For the quarter ending January 1, 1915. 102 pp. **\$1.00**

This work comprises an exhaustive analytical and synthetical Index of the Land Question throughout the world, including such subjects as Single Tax, Land Tax, Tax Reform, Land Values, Land Monopoly, etc. Taken together, these subjects are represented by about 2,500 titles with numerous references and cross references. There is no introduction to the book, as the method and object are self-explanatory; there is, however, a short key to explain minor intricacies, such as the specific subject chosen for indexing purposes when more than one title is employed in general use.

DEVINE, EDWARD T.

The Normal Life. 1915. 233 pp. **\$1.00**

The introduction tells us that the general theme of this book is Social Construction, accepting the faith which the phrase implies, namely, that it is we who are responsible for the well-being of ourselves and of posterity. But Social Construction presupposes an ideal; this ideal the author discerns and classifies as "The Normal Life": "The normal life, rather than abnormalities, prosperity rather than misery, health rather than disease." The normal life of man falls into seven natural divisions: before birth, infancy, childhood, adolescence, early maturity and old age, and these divisions furnish the subjects for the six chapters of the book. An appendix gives a classified list of questions which may prove "suggestive for local study of the social provisions essential to securing a normal life in any community."

BARNARD, J. LYNN, School of Pedagogy, Philadelphia;
CARRIER, F. W., Principal, Wilmington (Mass.) High School;

DUNN, ARTHUR WILLIAM, Specialist in Civic Education, United States Bureau of Education, and

KINGSLEY, CLARENCE D., High School Inspector, Massachusetts Board of Education.

The Teaching of Community Civics.

(Prepared by a Special Committee of the Commission on the Reorganization of Secondary Education, National Education Association.) Bulletin, 1915, No. 23, Whole Number 650, of the United States Bureau of Education. 55 pp. **10 cents**

The Letter of Transmittal which prefaces this pamphlet maintains that "Not until boys and girls have reached the years of adolescence, the high-school age, can they begin to gain any very full understanding of abstract principles of social, civic and governmental life." The serious instruction for good citizenship should be concentrated mainly in the last years of the school course. Although many textbooks and manuals, some good and some not so good, have been prepared on this subject, "there is still need for good manuals on community civics that will help teachers to treat the subject in an inductive way and to relate it properly to other subjects and to the past, present and future life of the students." "The Teaching of Community Civics" endeavors to meet this need; it furnishes a careful discussion of the aims and methods in teaching community civics, and a detailed plan for the treatment of the elements of welfare, in which such subjects as Health, Protection of Life and Property, Recreation, Education, Civic Beauty, Transportation and Charities are treated separately, from the point of view of the high school teacher. Selected bibliographical suggestions are appended with particular reference to the establishment of laboratories for research in civics.

CONFERENCE OF MAYORS AND OTHER CITY OFFICIALS OF THE STATE OF NEW YORK.

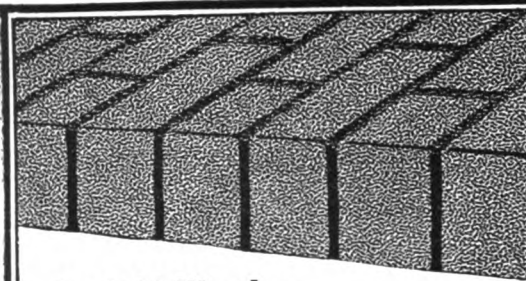
Efficiency First: Proceedings of the Sixth Annual Conference of Mayors and Other City Officials of the State of New York. (Troy, N. Y., June 1, 2 and 3, 1915.) 148 pp. Free to libraries, civic organizations and city officials on receipt of postage, 6 cents per copy; to others, **\$1.00**

This book, entitled "Efficiency First," from the slogan of the conference, contains the following papers of special importance: "Efficiency First," Hon. Rosslyn M. Cox; "Efficient Budget Making," Herbert R. Sands; "The State Comptroller's Relation with Municipalities," Fred G. Reusswig; "The Home Rule Constitutional Amendment," Hon. Arthur L. Andrews; "Why New York State Cities Should Have Home Rule," Henry Bruère; "A Health Survey of the Cities of New York State," Dr. Hermann M. Biggs; "What Is the Limit of Social Service Work by a Municipality?" Harry Olson; "Municipal Finance," Hon. Wm. A. Prendergast; "City Planning in New York State," Arnold W. Brunner; "City Streets and How to Pay for Them," Nelson P. Lewis; "Park and Play Ground Facilities," Charles Downing Lay; "Transportation in the City Plan," Daniel L. Turner.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

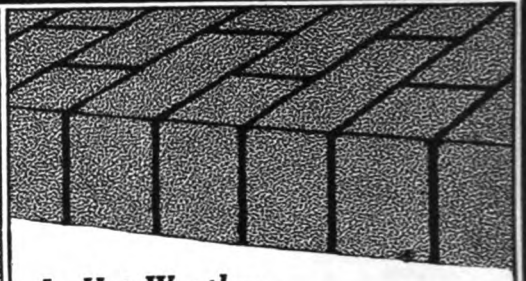
Ways and Means. The Young Men's Christian Association Among Industrial Workers. Outlines and Illustrations. 72 pp. **15 cents**

This booklet was prepared by the Industrial Department of the International Committee of the Y. M. C. A. for the use of Association branches located in industrial regions, and is a compilation of suggestions as to ways and means for work among industrial men and boys. Some of the subjects treated are: volunteer leadership, the industrial experiment commission, industrial workers, program for industrial men, industrial



In Cold Weather

the blocks contract, the joints widen, the pitch sinks and keeps the seal intact.



In Hot Weather

the blocks expand, the joints grow narrow, the pitch squeezes upward. The seal is intact.

Barrett's PAVING PITCH

Every Joint an Expansion Joint

THE use of cement grout as a filler for brick pavement attempts to defy one of the oldest laws of nature. In hot weather, brick will expand; in cold weather, contract. When brick and cement are combined in one pavement, making a great monolith, tremendous internal stresses reveal themselves, sometimes by explosion, when the pavement buckles up with a shower of fragments. Sometimes the expansion throws the curb out of line or develops long, unsightly cracks.

To remedy this condition engineers attempted more or less unsuccessfully to provide for expansion by the use of an expansion joint filled with a plastic material.

If the block is of inferior quality the use of cement in the joints may serve to protect the edges from abrasion by traffic, but good brick requires no such protection, especially if the bricks are laid properly, close together. On the

other hand expansion joints, coming at a distance of 8 or 10 feet apart, must necessarily be so wide, in order to take up the great expansion, that protection of the edges is impossible and so in old cement-filled pavements you will find wide grooves running across the pavement at the expansion joint where the exposed edges of the last line of bricks have been hammered into dust.

The use of Pitch Filler instead of cement obviates all these difficulties. Every joint is an expansion joint. In cold weather the pitch sinks in the joint as the block contracts, but as every joint is an expansion joint the amount is infinitesimal. In warm weather the pitch merely rises a little in the joint. In either case the pitch adheres firmly to the block, preserving an absolutely waterproof perfect seal.

The best pitch for the purpose is Barrett's Paving Pitch.

Booklets on request

BARRETT MANUFACTURING COMPANY

New York Chicago Philadelphia Boston St. Louis Cleveland Cincinnati
Pittsburgh Detroit Birmingham Kansas City Minneapolis Salt Lake City Seattle
THE PATTERSON MFG. CO., Limited: Montreal Toronto Winnipeg Vancouver St. John, N.B. Halifax, N.S. Sydney, N.S.



reading course, industrial surveys. A useful list of lantern slides, motion picture reels, exhibits and helpful literature is included. Throughout the book the matter is in concentrated form, made more accessible by the employment of leaded subtitles and headings.

HENDERSON, CHARLES RICHMOND, D. D., Ph. D., Professor of Sociology and Head of the Department of Practical Sociology, University of Chicago.

Citizens in Industry. (In "The Social Betterment Series," edited by Shailer Mathews, D. D.) 342 pp. 1915. \$1.59

Passing from a general consideration of "the situation and its problems," the book, in the first chapter, takes up the consideration of modern industrial life and the welfare organizations and activities which aim at amelioration. It is shown that recently the transition from philanthropy and welfare schemes to social legislation has been effected. In the second chapter the problems of health and safety—particularly with regard to industrial communities—are discussed; chapter three is devoted to "economic inducement to secure efficiency of labor"; chapter four to improving conditions of home life; chapter five to the neglected youth, and chapter six to vocational education and liberal culture. The last three chapters discuss the function of the social secretary, training employees for self-government, wages and arbitration, and, finally, to a consideration of the moral and religious influences in industry. The book closes with a valuable list of establishments which have organized welfare work.

BASHORE, DR. HARVEY B., Inspector for Pennsylvania Department of Health.

Overcrowding and Defective Housing in the Rural Districts. First Edition; First Thousand. 92 pp. Illustrated. 1915. \$1.00

Overcrowding—the great problem of city life—is shown in this book to be also a problem in rural communities. As in the city, the rural problem is beginning to demand attention in view of its effect on the public health. The conditions described in this book, improper sanitary arrangements, small windows and bad ventilation, are found frequently to occur in the rural districts where already tuberculosis is often the cause of death. In addition, it is pointed out: "While the great majority of people subjected to overcrowding and bad housing conditions do not prematurely die, yet they have a lessened physical and mental vigor, and so have less ability to perform properly their daily work, the result being a loss to themselves and their families as well as to the State."

IHLDER, JOHN, Field Secretary, National Housing Association.

City Housing—Past and Future. (National Housing Association Publications, No. 28, July, 1915.) 14 pp. 5 cents

THE UTILITIES BUREAU (Morris Llewellyn Cooke, Acting Director), Publishers.

The Utilities Magazine. Official Organ of the Utilities Bureau. (Vol. I, No. 1, July, 1915.) 32 pp. \$1.00

The Utilities Bureau, of which *The Utilities Magazine* is the organ, was established for the following purposes: 1, To collect and collate data as to rates, service standards and cost factors in municipal utilities; 2, to prepare this matter for the use of cities, etc.; 3, by study and advice to help cities to solve their utility problems; 4, to codify all legal decisions; 5, to keep lists of experts (engineers, lawyers, accountants, etc.); 6, to encourage the introduction of up-to-date methods of scientific organization and management; 7, to publish and disseminate information regarding municipal utilities (service standards, rates, franchises, public contracts, etc.); 8, to assist in the presentation of a city's interests before regulatory or judicial bodies; 9, to serve as a national agency through which American cities may cooperate by exchanging data as to cost factors, service standards and rates.

MACKENZIE, W. LESLIE, M. A., M. D., LL. D., and CRUICKSHANK, LEWIS D., M. D., D. P. H., Editors.

Problems of School Hygiene. Being a Report of the First Conference of Scottish School Medical Officers. (A Collection of Papers by Different Scottish Medical Authorities.) 112 pp. 1914. 75 cents

The last few years have witnessed in Scotland the organization, by the Inspectors of Schools, of a splendid system of educational medical service extending to the supervision of teachers and school children throughout the country. This book gives the results of the first conference in which representatives of all the various school medical officers assembled, and includes a large number of papers prepared for the occasion. Among the contributors are such names as those of Sir John Struthers, Doctors W. Leslie Mackenzie, A. Campbell Munro, J. Hally Meikle, Robert and William Bruce, L. D. Cruickshank, etc., authors of articles on Medical Inspection, School Hygiene, School Medical Research and Physical Education and Training. Throughout the book, as was the case with regard to the conference, the keynote is *synthesis*, the object being a closer and more effective cooperation between local and central health authorities in Scotland.

CITIZENS' LEAGUE OF INDIANA.

The Citizen. A Monthly Magazine. Organ of the Movement for a New Constitution for the State of Indiana. (Vol. I, No. 1, July, 1915.) 24 pp. 10 cents

INTERNATIONAL ASSOCIATION OF CHIEFS OF POLICE.

Proceedings of the Twenty-Second Annual Convention. (Held at Cincinnati, Ohio, May 25 to 28, 1915.) 123 pp. Free

CHENEY, CHARLES HENRY, Editor.

What City Planning Commissions Can Do. Compiled for the California Conference on City Planning. (Bulletin No. 1, June, 1915.) 22 pp. Illustrated. 50 cents

RICHMOND, CAL.

Result of the City Planning Contest on the Canal Subdivision. (Showing the winning and honorable mention plans and the composite or final plan, with related matter.) 32 pp. Plans and photographs. Free

NEW YORK ASSOCIATION FOR IMPROVING THE CONDITION OF THE POOR, and

NEW YORK DEPARTMENT OF HEALTH, BUREAU OF CHILD HYGIENE.

Flies and Diarrheal Disease; Second Year's Investigation. A Joint Study by the two above-mentioned Bureaus. Publication No. 91 of the A. I. C. P. Illustrations and diagrams. 46 pp. September, 1915. Free

THE CIVIC PRESS.

The American City Pamphlets. Four pamphlets have been issued during the last month:

The Jitney Bus. By Clyde Lyndon King, Ph. D. No. 132. 15 cents.
Sheet Asphalt Pavements. By Daniel T. Pierce. No. 133. 15 cents.
How to Avoid Root Growth in House Sewers. By William Robert Marshall. No. 134. 10 cents.
Organizing Rochester's School Boys for Accident Prevention. By Roland B. Woodward. No. 135. 10 cents.

MUNICIPAL SIGNS

OF EVERY CHARACTER

FOR EVERY PURPOSE

"BALTO" **GUARANTEED**
PORCELAIN
ENAMELED
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SIGNS

"BALTO" Guaranteed Porcelain Enameled Iron Signs stand alone in their field—the one and only one absolutely dependable sign product.

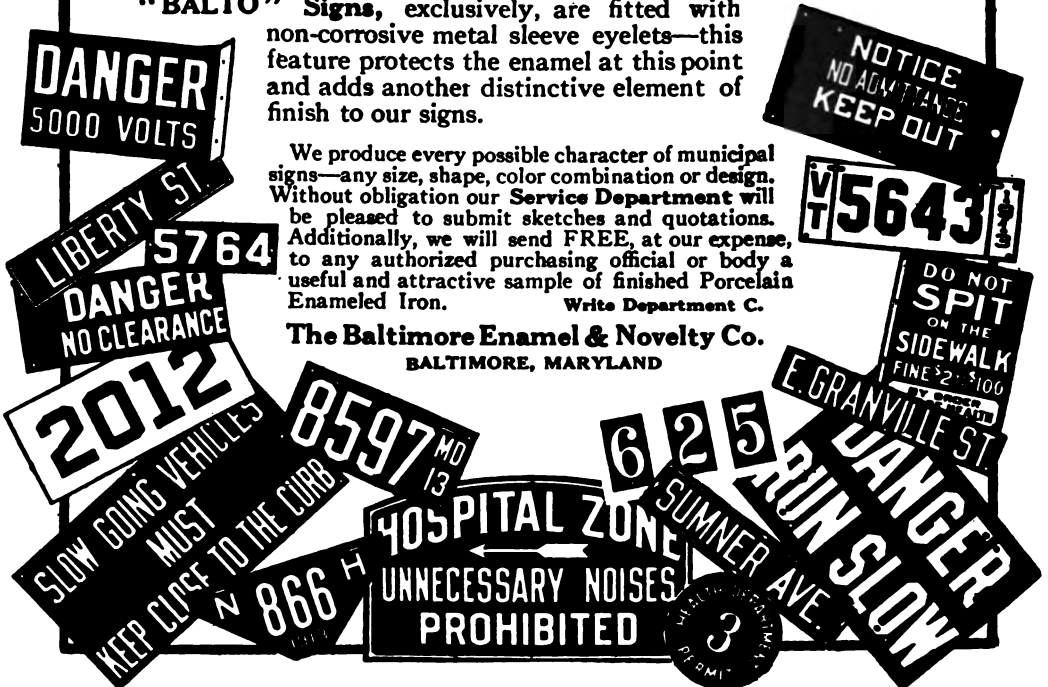
These signs are made of the finest grade of vitreous Porcelain Enamel fused on specially processed iron at a temperature of 1600 degrees Fahrenheit—each color separately fused.

"BALTO" Signs, exclusively, are fitted with non-corrosive metal sleeve eyelets—this feature protects the enamel at this point and adds another distinctive element of finish to our signs.

We produce every possible character of municipal signs—any size, shape, color combination or design. Without obligation our Service Department will be pleased to submit sketches and quotations. Additionally, we will send FREE, at our expense, to any authorized purchasing official or body a useful and attractive sample of finished Porcelain Enameled Iron.

Write Department C.

The Baltimore Enamel & Novelty Co.
BALTIMORE, MARYLAND



PARSONS, SAMUEL, Fellow of the American Society of Landscape Architects.

The Art of Landscape Architecture. Its Development and Its Application to Modern Landscape Gardening. 347 pp. Illustrated. 1915. \$3.72

"The first man we can find who really seemed to comprehend and present intelligibly the idea of a public park in America was Andrew Jackson Downing," of whom William A. Stiles, writer on landscape architecture, has said that he was our first authoritative writer on the art of landscape gardening, and that he adopted "what was then called the English style of gardening" as opposed to the predominating "French or Italian style, where one sees the effects of art slightly assisted by nature." The preface of this book, following Downing's contention, maintains that landscape architecture, above other arts, is based on nature and should be practiced on natural lines. To further the maintenance of this proposition the book endeavors "to show that landscape gardening has been and is the result of an evolution and growth of an important art, based on the deepest instincts of human nature." In Chapter 15 these instincts are shown to be identical with the modern awakened interest in community life, conditions and development. This attitude should be encouraged: "The park idea should pervade the city everywhere throughout its streets, and particularly around its residences and public buildings"—in other words, "a city should be looked upon, if ideally laid out, as a great public park in which a community is to live and move and have its being." Furthermore, the city planner "should make his standpoint of design that of the community, and thus evolve for his city a unified artistic creation realizing the ideal of both architect and landscape architect."

PORTER, R. LEE.

Social Work with Families and Individuals. (A Brief Manual for Investigators.) Studies in Social Work, No. 1, The New York School of Philanthropy. January, 1915. 16 pp. 5 cents

BULLOCK, EDNA D., Compiler.

Selected Articles on Single Tax. (Debaters' Handbook Series.) 1915. xxviii + 199 pp. \$1.07

Adapted to the needs of the general seeker for information as well as the debater. The arrangement is: brief, bibliography, general, affirmative and negative reprints. A bibliography of literature that will set the subject squarely before the average citizen's mind is given, with due regard, also, for the economic student of the abstract theory of taxation. Societies and other sources of especially valuable publications on the single tax are listed.

KIMBALL, THEODORA, Librarian, School of Landscape Architecture, Harvard University.

Bibliography on Streets: Their Arrangement, Lighting and Planning. *Special Libraries*, Vol. VI, No. 3, March, 1915. (This issue of *Special Libraries* contains also a "List of References on the Budget of Cities" compiled under the direction of the Library of Congress.) 56 pp. 25 cents

NEW YORK STATE CONFERENCE OF MAYORS AND OTHER CITY OFFICIALS, Bureau of Municipal Information. (William P. Capes, Director.)

Street Lighting by Electricity in New York State Cities. Describing Ornamental and General Systems. Unit Cost and Methods of Assessment. 64 stenographic pages. Free

NATIONAL CHILD LABOR COMMITTEE.

High Cost of Child Labor. Exhibit Handbook. (Pamphlet No. 241; January, 1915.) 20 pp. Illustrated. 10 cents

WEAVER, EMILY P.,
WEAVER, A. E., and
WEAVER, E. C., B. A., Editors.

The Canadian Woman's Annual and Social Service Directory. 322 pp. 1915. \$1.09

Into this useful compilation the editors have managed to crowd the maximum of facts of interest to civic and social workers in Canada and elsewhere without surpassing the limits of a handy volume. While the book is primarily occupied with women's interests in literature, art, the professions, and social and economic welfare, nevertheless there remains much of interest to workers of the opposite sex. The prefatory note tells us: "Our purpose has been to suggest the backgrounds of Canadian life—the country, the people, the government—to give information as to the more important lines of women's work, women's associations and social agencies, to aid those seeking sources of information or desirous to cooperate with other workers." The chapter headings refer us to such subjects as historical notes, government, widows' pensions, courts, pure milk, child welfare, education, professions and employment, journalism, literature, art, music, crime, charities, religions, etc. The appendix furnishes supplementary information and statistics with regard to special subjects.

DUNN, ARTHUR W., Special Agent in Civic Education, United States Bureau of Education.

Civic Education in Elementary Schools as Illustrated in Indianapolis. (United States Bureau of Education, Bulletin, 1915, No. 17. Whole No. 642.) 35 pp. Outlines. 5 cents

KNIGHT, HOWARD R.

Play and Recreation in a Town of 6,000. (A Recreation Survey of Ipswich, Mass.) 98 pp. Illustrations and charts. 1915. 25 cents

PHILADELPHIA BUREAU OF HIGHWAYS AND STREET CLEANING, William H. Connell, Chief.

Highways: A Problem in Municipal Housekeeping. Report for 1914 of the Philadelphia Bureau of Highways and Street Cleaning. 174 pp. Illustrations, charts and diagrams. 1915. Free

PAINE, F. D.

Ornamental Post Lighting of City Streets. Iowa State College Bulletin No. 13. Engineering Extension Department, Technical Service. (Vol. XIII, No. 29, March 1, 1915.) Illustrations, charts and diagrams. 16 pp. Free

CARVER, T. N., Adviser in Agricultural Economics, United States Department of Agriculture.

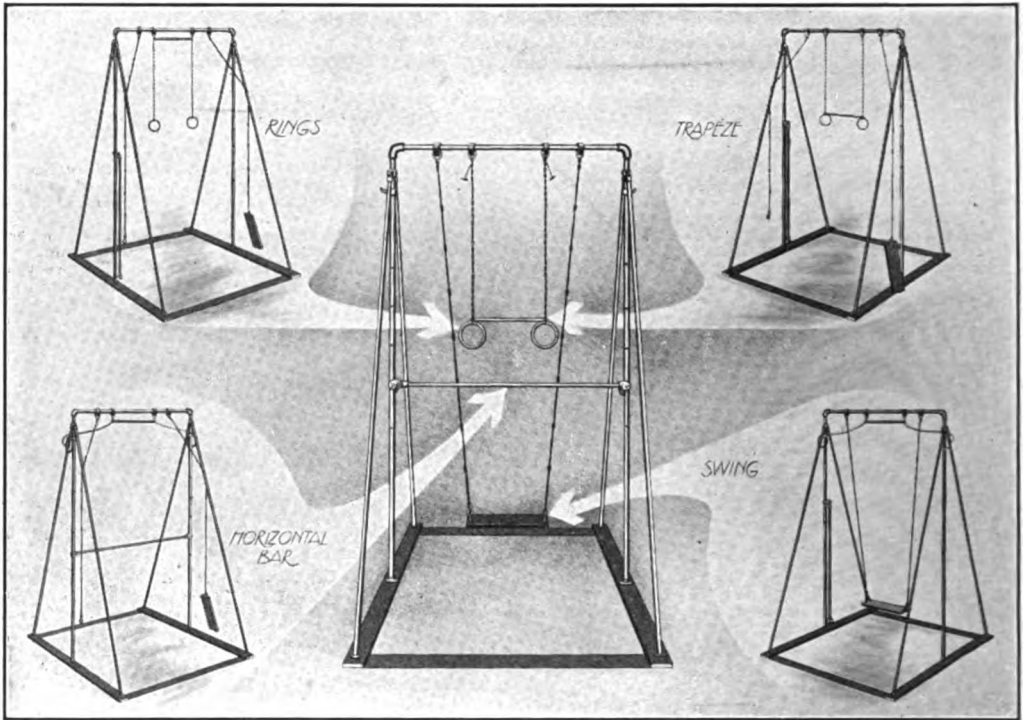
The Organization of a Rural Community. (Prepared for the Office of Markets and Rural Organization. From year-book of Department of Agriculture for 1914.) 1915. 58 pp. 5 cents

PERMANENT COMMITTEE ON COMPREHENSIVE PLANS, Department of Public Works, Philadelphia.

Report on the Proposition of a Central Traffic Circuit. 1915. 19 pp. Illustrated. Free

THE CIVIC LEAGUE OF CLEVELAND.

Taxation in Ohio. (Report of The Civic League of Cleveland.) 1915. 19 pp. Free



EVERWEAR

STANDS WEAR AND TEAR

Keep the "Kidlets" Busy

and keep 'em out of mischief is the slogan among leading educators. Hence municipalities are installing playgrounds in parks and open spaces with suitable playground apparatus.

"EVERWEAR" PLAYGROUND OUTFITS

are the best for public or private use. Their universal usefulness and popularity attest this fact, and no playground or back yard should be without them.

Our "FOUR-IN-ONE" combination for private yards makes play out of exercise and affords an endless field for the working out of new and various "stunts."

Catalog C-3 showing a full line of the latest and approved playground equipment will be sent on request.

Everwear Mfg. Co.
SPRINGFIELD, OHIO



Manufacturers' Literature

Available Free of Charge for Readers of THE AMERICAN CITY

Advertisers are invited to submit catalogues or circulars suitable for mention in these columns. THE AMERICAN CITY should always be mentioned when writing for this material.

Cellular Tires for Fire Apparatus.

Booklet issued by the Swinehart Tire & Rubber Company, Akron, Ohio.

Municipal Progress.

Catalogue covering use of motor sprinkling trucks, ambulances, garbage trucks, police patrols by cities and towns. General Motors Truck Company, Pontiac, Mich.

Sound Accounting.

Municipal officials interested in securing a business-like system of accounting for the various municipal departments will find this booklet of interest. Clinton H. Scovell & Company, 110 State Street, Boston, Mass.

Fire Hose That Will Not Crack.

Booklet relative to special construction of fire hose in order to prevent deterioration by cracking. Bi-Lateral Fire Hose Company, 326 West Madison Street, Chicago, Ill.

Water Meters Advantageous or Otherwise.

A series of articles on this subject by Edward W. Beemis, Neptune Meter Company, 90 West Street, New York City.

Public Service.

Booklet relative to the protection of public health in cities through the use of individual towels. National Paper Products Company, 105 Canal Street, Carthage, N. Y.

Alpha Book No. 2.

Contains valuable information regarding cement and concrete work. Alpha Portland Cement Company, Easton, Pa.

Knox Detachable Tractor.

Catalogue relative to the Knox Model 35, 4-wheel tractor for fire department service. Knox Motor Associates, Springfield, Mass.

Drinking Fountains.

Catalogue containing illustrations of wide variety of drinking fountains suitable for park, street and school use. Rundle-Spence Manufacturing Company, Milwaukee, Wis.

Dump Wagon for Street Work.

Catalogue regarding the Moore low-down model dump wagon. Hamilton Smithing and Manufacturing Company, Hamilton, Ohio.

Culverts for Municipal and County Use.

Booklet relative to "Genuine Open Hearth Iron" culverts, describing how these are furnished ready to lay and in lengths to suit all purposes. Newport Culvert Company, Newport, Ky.

Red Book No. 1.

Regarding Heltzel forms for curb, gutter and sidewalk and road construction as used by over 526 municipalities. Heltzel Steel Form & Iron Works, Warren, Ohio.

Paving Mixers.

Illustrated folder relative to the Jaeger concrete mixer, especially designed for paving work. Jaeger Machine Company, 215 West Rich Street, Columbus, Ohio.

Pumping Engine for Highway Construction.

Catalogue relative to the Atlantic gasoline pumping engine, designed especially for road building. Harold L. Bond Company, 383 West Atlantic Avenue, Boston, Mass.

Metallic Flame Arc Lamps.

Catalogue DS-290, giving full particulars about these lamps as used by the Pittsburgh municipal lighting plant. Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.

Outdoor Lighting Fixtures.

Catalogue No. 10, illustrating various fixtures for street and public building lighting. Herwig Art Shade & Lamp Company, 2139 North Halstead Street, Chicago, Ill.

Fence Catalogue G.

Illustrating and describing fencing for park, cemetery and playground use. Wright Wire Company, Worcester, Mass.

Fibre Conduit Book "DS."

Regarding the installation of underground conduit suitable for ornamental street lighting systems, and describing the simplicity and economy of the fibre conduit. Fibre Conduit Company, Orangeburg, N. Y.

Street and Park Trash Cans.

Booklet relative to refuse containers for keeping paper and trash off streets and out of gutters. Majestic Company, 513 Erie Street, Huntington, Ind.

Fountains and Park Ornaments.

Illustrated catalogue showing various models of fountains, statuary, sun-dials, vases, benches, etc., for park and cemetery use. Erkins Studios, 227A Lexington Avenue, New York.

Instruments for City and County Engineers.

Catalogue, including illustrations of the Gurley Light Transit. W. & L. E. Gurley, Troy, N. Y.

Hand Book on Streets and Highways.

Illustrations and descriptions of street sprinklers, street sweepers, street flushers, road oilers, dump wagons, etc. Studebaker Corporation, South Bend, Ind.

New Ways to Make Highways.

Book relative to details of road construction and maintenance, fully illustrated by pictures and sectional drawings showing how to secure the best results in road building. Dept. 406, Dupont Powder Company, Wilmington, Del.

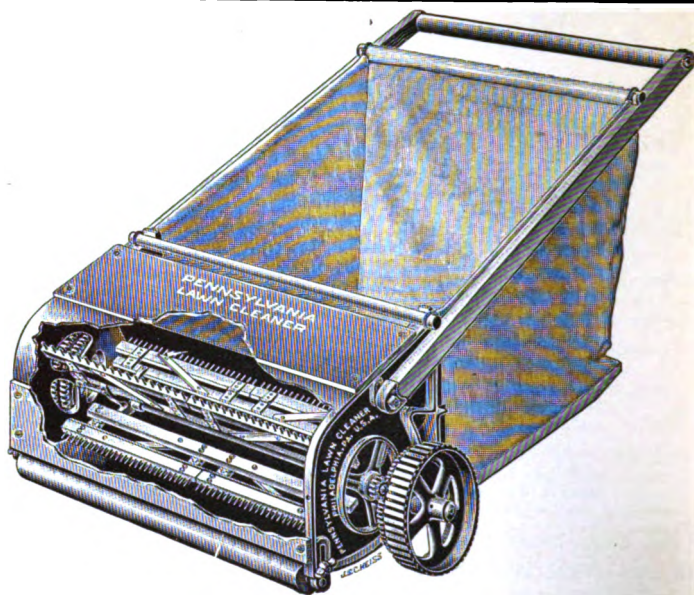
Panama Giant Road Machine.

Describes this machine and its wide range of use for all sorts of road-building work. F. B. Zieg Manufacturing Company, Fredericktown, Ohio.

The Retail Credit and Adjustment Bureaus; Their Organization and Their Conduct.

By C. O. Hanes, Secretary Retail Merchants' Association, Columbia, Mo. Credit Bureau Supply Company, Box 86, Columbia, Mo.

Save
Time
and
Labor



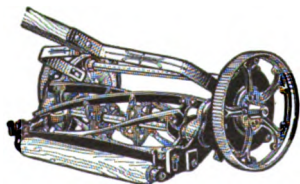
When giving the lawns the final clean-up this fall use a

“PENNSYLVANIA” Lawn Cleaner and Rake

With it one man can remove all the cut-grass and trash quicker and better than three or four men with hand rakes.

The three revolving, wire-tooth rakes clean up every bit of litter and pass it into a roomy basket, which is easily emptied. They leave the grass upright.

The “PENNSYLVANIA” Lawn Cleaner and Rake is an economic necessity for large estates, parks and golf courses.



NEARLY everyone knows the cutting efficiency of the “PENNSYLVANIA” Quality Lawn Mowers with all the blades of oil-hardened and water-tempered crucible tool steel. The line—

“Pennsylvania”	“Golf”
“Great American”	“Pony”
“Continental”	Horse and Power
“New Departure”	and Others.

24-inch cleaning area, shipping weight 80 lbs.
36 “ “ “ “ “ 126 “

“The Pennsylvania People”

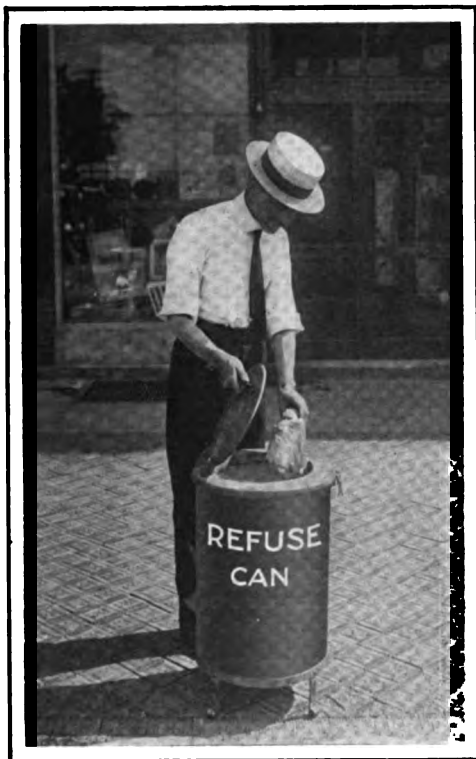
Supplee-Biddle Hardware Company
PHILADELPHIA, PENNSYLVANIA

Methods, Materials and Appliances

News from Engineers, Manufacturers and Supply Houses

A Refuse Receiver for Parks and Streets

One of the specialties of The Majestic Company of Huntington, Ind., is the street and park refuse receiver illustrated on this page. Every city which takes pride in civic beauty and cleanliness provides some sort of receptacle for the collection of waste paper and refuse incidental to city streets and parks. The Majestic receiver is both sanitary and neat in appearance. It keeps the can, which becomes soiled and possibly battered from emptying, out of sight, in the ingot iron shell,



THE MAJESTIC TRASH RECEIVER

or container. This container stands on four wrought-iron legs, keeping it away from the sidewalk and water-washed filth. The can is covered by a cast-iron top, which fits onto the shell and is chained to it. It is simple and easy to open the top, lift out the can, empty it and return it to the container. The receiver is finished in dark green enamel, with the words "Refuse Can" lettered on the shell.

A New Four-Wheel Tractor

The Knox Motors Company, of Springfield, Mass., has recently placed on the market a new four-wheel tractor for fire service, a view of which is given on page 339 of this issue. Simplicity, accessibility and reliability have been the keynote of the design, and the Knox Company makes even greater claims for this model than for any they have heretofore perfected.

While the principle of attaching the tractor to steamers, ladder trucks, aeriels, etc., is the same as on the three-wheel tractor, the design of the tractor proper has been changed materially. Among the new features are the patented hydraulic brakes, enabling the operator to exert with ease tremendous power on the rear axle drum; the differential lock, with which the tractor and its load may be operated in bad going and on slippery places; control board at the steering column, within easy reach of switches, fuses, gauges, and speedometer; unique jack shaft brakes; the ease of adjustment and renewal of shoes.

The motor, while retaining the overhead feature, is of entirely new design. It has four cylinders, 5-inch bore and 5½-inch stroke, and is said to be capable of pulling its load over the steepest grades and as fast as safety will permit on level road.

The fifth wheel, or trailer platform, is made of unusual size and is so constructed as to fit the platform of any steamer, ladder truck, or other form of apparatus. In coupling, the connection is made by means of an ordinary king bolt, and the original springs are preserved. Both these points are important, and are not found where the rear platform is made a permanent and integral part of the fire apparatus itself. In case of accident to the motor mechanism, or during the periodical overhauling necessary on all motors, the fire apparatus itself can be quickly detached by removing the king pin; or, at the discretion of the fire chief, the tractor can be quickly transferred to some other fire station. In towns where there is one steamer, the original front axle can be preserved, and in case of an unexpected emergency the change back to horse-drawn apparatus can be made in thirty minutes.

Full equipment is furnished with this new model, including the Bijur electric starting and lighting system; trailer platform complete; two electric side lamps; one electric tail lamp; one electric searchlight; Willard storage battery, 6 volts, 160 amperes; electric siren horn; Pyrene fire extinguishers; speedometer; complete set of skid chains, etc. Several options are given on the tire equipment, standard sizes of which are 34 x 5, single, front; 40 x 6, dual, rear.

Cyclone Property Protection Fence

For Parks, Private Grounds or Cemeteries

The protection of public and private property from thoughtless people and from viciously reckless people is a problem that baffles the authorities in many communities. Shrubby is torn, flowers are plucked, litter is scattered, irregular paths are cut across lawns. Against these and a long list of other abuses which are of common occurrence

CYCLONE PROPERTY PROTECTION FENCE OFFERS MAXIMUM AND PERMANENT PROTECTION

Our fence is built of heavily galvanized wire, closely and evenly spaced, with deeply crimped pickets and cables firmly locked. Five barb wires at top overhang either side, making climbing over it practically impossible.

Our posts are built of tubular steel—the strongest form of post construction—there is no weak side. They support the heavy fabric properly, make the fence durable—resist shock or strain from any direction.

Cyclone Property Protection appeals to you because it is economical—cheaper than wood, for it is weather-proof, fire-proof, repair-proof—gives the grounds a substantially finished appearance.

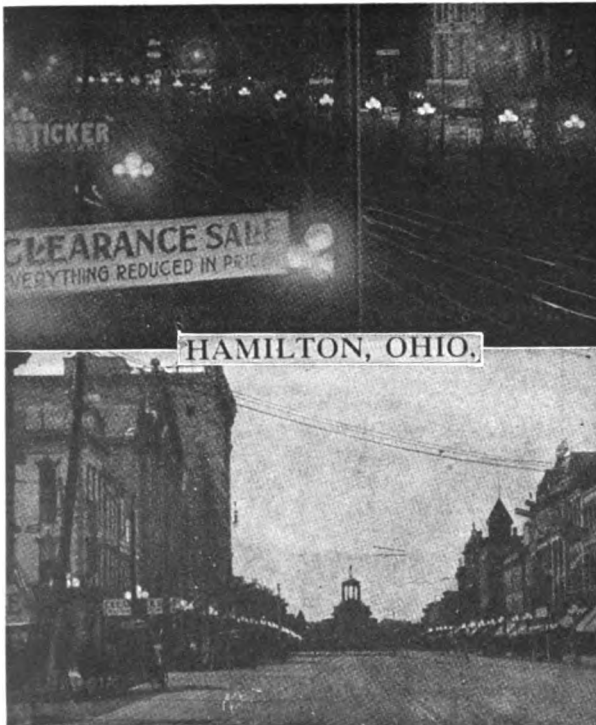
It is sanitary—does away with the damp, decaying, unsightly fence line; does not obstruct the view; does not harbor trash.

Our engineering department will advise and co-operate with superintendents of parks and estates to solve their fence problems free of charge. We supply construction engineer to superintend erection at nominal cost.

Illustrated catalog free on request.

CYCLONE FENCE CO., Dept. 107, WAUKEGAN, ILL.

We are the largest manufacturers and recognized leaders in fence construction work. We originate our own patterns and our fences are distinctive in their design, even spacing and strong construction.



WHY IS ORANGEBURG FIBRE CONDUIT

BEST ADAPTED FOR USE IN
ORNAMENTAL STREET
LIGHTING SYSTEMS?

This Question must be answered from the points of

Quality of Material
Economy of Material
Economy of Construction
Merit of Completed System

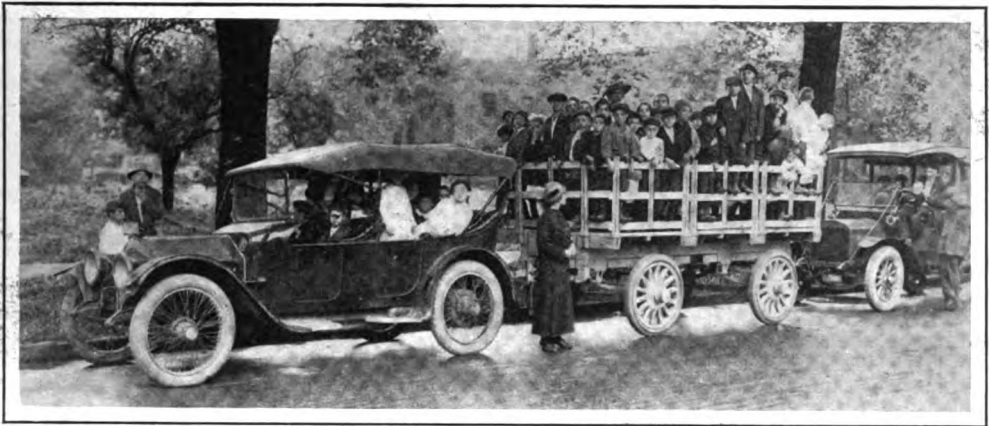
All these points are discussed in our little book "DS"

SHALL WE SEND IT?

The Fibre Conduit Company
ORANGEBURG, N. Y.

New York
Boston

Chicago
San Francisco



SUGGESTING THE POSSIBILITY OF USING TRAILERS IN JITNEY SERVICE
A Troy trailer hitched behind a demonstration car, hauling a party of children to the docks for a day's outing

Street Signs for Highland Park

A large order was recently received by The Indestructible Sign Company, of Columbus, Ohio, from Highland Park, Ill., one of Chicago's finest suburbs. This company's signs were approved by the City Beautiful Commission as well as by the Board of City Commissioners, which is made up of some of the most prominent bankers and business men of Chicago who make their homes in Highland Park.

+ +

A Fire-Fighting Truck in Parnassus

The borough of Parnassus, Pa., has installed a Packard 3-ton chainless motor truck for its fire department. This piece of apparatus is illustrated on page 338 of this issue. The motor governor is adjusted to allow for a speed of 25 miles per hour, this being considerably in excess of the speed designated for a 3-ton truck in ordinary commercial service. The main reason for the purchase of this type of fire truck is that the Councilmen of Parnassus have been given an excellent opportunity to study the performance of a Packard truck which has been in the service of the North Braddock, Pa., fire department for four and one-half years, and has been out of service only one week during that time.

Since it carries about nine-tenths of its load on the rear axle, the Parnassus truck is capable of the maximum tractive effort in slippery going and on heavy grades. With its ability to get over the ground is combined the advantage of effective brakes. The equipment of the truck includes two 35-gallon polished copper chemical tanks, of Champion style, 200 feet of 3/4-inch chemical hose, one shut-off nozzle, one hose reel, two extra acid receptacles and holders, soda bags, pressure gauge, all necessary wrenches and trunnion bearings, one Detroit door opener, two dash signal lights, two head lights, one swivel searchlight, all operated by electricity, special speedometer, enclosed gear ratchet horn, 24-foot extension ladders, and a complete set of machine tools. The cost

of the complete vehicle was in the neighborhood of \$5,200.

Parnassus officials justify their choice of fire-fighting apparatus by the statement that, in a city of their size, dependability is the biggest essential feature. They point out that in a large city, where several pieces of apparatus answer each alarm, the failure of an individual vehicle is not of vital importance; but in a municipality of the size of Parnassus all dependence must be placed on the single unit owned, and therefore it is imperative that a vehicle of known reliability and efficiency be purchased.

+ +

Identifying Prisoners

The "Y and E" criminal identification equipment, manufactured by the Yawman & Erbe Manufacturing Company, of Rochester, N. Y., has been adopted by prisons and police departments in many cities throughout this country. It includes every article of measuring furniture and instruments, all filing cabinets, record cards and index classification, every implement needed for the taking of finger prints, with full and complete printed instructions for the installation and operation of all parts of the system. The booklet on "Criminal Identification," published by this company, shows how this equipment is applicable to the satisfactory use of the Bertillon and the finger print systems for recording prisoners. It is amply illustrated with views which make clear the appearance and use of the equipment. It contains facsimile letters from the cities of Spokane, Wash.; Syracuse, N. Y.; Baltimore, Md., and Toledo, Ohio, testifying to the value of this system.

+ +

Educational Pictures

A series of outdoor prints and lantern slides for educational purposes is manufactured and supplied by the J. Horace McFarland Company, of Harrisburg, Pa. A number of schools and colleges are using these prints and slides for

The Fence of Beauty and Permanence

Every Excelsior Rust Proof Fence is as permanent a fence as can possibly be made. Everybody knows that rust is the great fence destroyer. Buy the fence that is rust proof.



fence is made to escape rust. The large strong wires are heavily covered with zinc, put on by a special dip galvanizing process. Every spot and every point is so thickly covered that rust gets no start. There are many styles. Suit the fence to the location. Send for illustrated Catalog G of Excelsior Rust Proof Fences, Tree Guards, Bed Guards and other products.

WRIGHT WIRE COMPANY, Worcester, Mass.

KING STANDARDS

**ARE INVARIABLY CHOSEN WHEN BEAUTY OF DESIGN
and serviceable construction are considered**

No other line of standards permits of so many combinations—all KING units being interchangeable. Each distinctive design moulded from aluminum patterns. All joints absolutely waterproof—assuring maximum service.

**THE KING FACTORY IS
the largest exclusive**

WRITE TODAY FOR
large colored poster
showing standards for
street lighting. It's
yours for the asking.

KING FOUNDRY CO.
8th and Doniphan Ave.
ST. JOSEPH, MO.



**pole manufacturing
plant in the world**

SEND NOW FOR
illustrated folder show-
ing KING monolights
for streets, parks and
boulevards.

CHICAGO OFFICE
530 Monadnock
CHICAGO, ILL.

their class work. The series includes sets on general landscape plantings, herbaceous plants and borders, formal and informal gardens, civic improvement, and miscellaneous outdoor subjects. The photographs are selected from a collection of more than 30,000 negatives accumulated in twenty years of effort and travel. They measure 8 x 10 inches, unmounted, and are packed in suitable containers. A condition of their sale is that they shall be used for educational or exhibition purposes only and not reproduced as lantern slides or in publications. The lantern slides made from these subjects may be had both colored and uncolored. The set on civic improvement shows the "before and after" effects of simple planting for both the city and the country home, the proper treatment of children's gardens, playgrounds, public and private parks, water-fronts, etc. A number of the pictures show how the natural beauty of a landscape is marred by billboards, poles and wires, ash-dumps and other alleged "necessities" of modern life.

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Smooth Sidewalks

A folder issued by The Philip Carey Company, of Cincinnati, asks its readers to choose between two sidewalks, views of which are herewith reproduced. The one represents a walk which has been laid without adequate provision for the expansion caused by a hot summer day; the other pictures a walk in which an effective expansion joint has been used. This company manufactures the "Elastite" expansion joint, known as "The Sandwich Joint" on account of its construction.

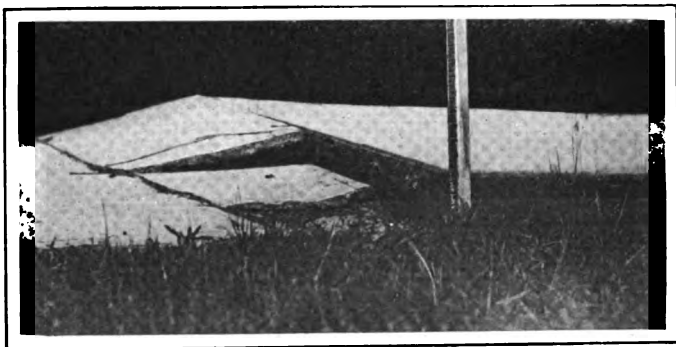
It consists of a heavy body of special asphalt compound sandwiched between two layers of asphalt-saturated wool felt, the whole bonded together. The feature of the joint is the increased compressibility secured by increasing the volume of the asphalt compound, and keeping it in a solid body instead of distributing it throughout the joint in several thinner layers.

This joint is adapted not only to sidewalk use, but also to all kinds of paving and to other construction work in which expansion must be provided for.

✱ ✱

A Chemical Car for the Smaller Places

The front cover of a red-bound pamphlet issued by the American-La France Fire Engine Company, of Elmira, N. Y., is "mortised" to show underneath a photograph of American-La France chemical fire apparatus mounted on a Ford chassis, and the pamphlet is devoted to a presentation of this apparatus. Reliability, light weight, strength, ease of operation, instant availability of repair parts are the features of the Ford chassis which caused its adoption by the American-La France Company as standard for this kind of light chemical car. Chemical engines are an important part of the equipment of up-to-date fire departments, and this car offers the same opportunity to the small cities and towns that larger



SIDEWALK WITHOUT ADEQUATE EXPANSION JOINT

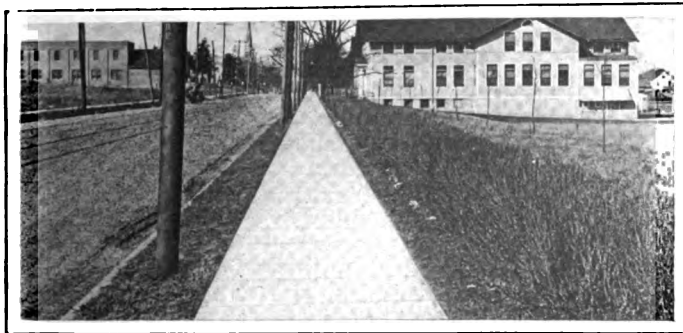
places enjoy—that is, the advantage of apparatus which will arrive at the fire directly after it is discovered and which can at once play on the fire a stream many times as effective as water, and without delay due to coupling, laying hose, etc. A view of this car is given on page 338 of this issue.

✱ ✱

Gas Power

"Bruce-Macbeth Gas Engines and some Valuable Facts about Gas Power" is the title of a new booklet just issued by The Bruce-Macbeth Engine Company, of Cleveland. Every municipality that is interested in the reduction of power and light costs, and every gas engine operator who desires to get the most efficient results from his equipment, will find this booklet of interest.

It gives in concise form



SIDEWALK WITH ELASTITE EXPANSION JOINT

9 out of every 10
cities that have ornamental
street lighting

use Alba Ornamental Balls

Alba Balls make it easy
to have modern street
lighting with low current
consumption.

Information on request

**Macbeth - Evans
Glass Company**
Pittsburgh



Morris unit for High
Efficiency Nitrogen
Lamp—Design No.
9083-1 (Form "D")

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A High Candle-Power Single Light

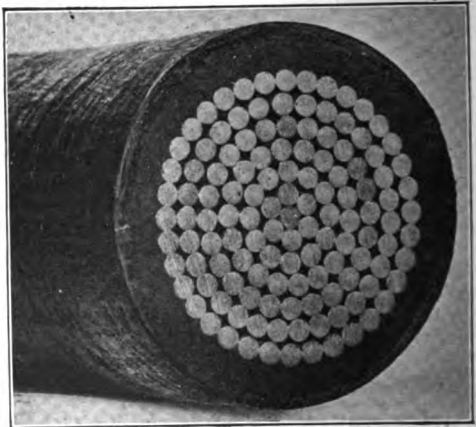
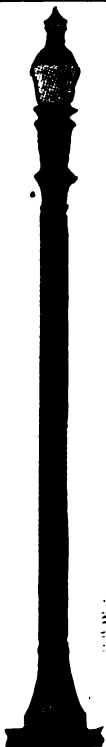
A standard like this offers a
very economical method of
lighting streets efficiently: The
initial cost is low as is also the
maintenance cost.

This standard is free from
excessive embellishment, there-
by heightening the decorative
and imposing lamp design.

The old style swinging arc
lamp is being rapidly dis-
placed by such designs as these.
The first installation in New
Haven, Conn. has been fol-
lowed by Baltimore, Rochester,
Cincinnati and other large
cities.

Our new catalogue will show
you many designs. Write for
it today.

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199

the principal advantages of gas power, together with some facts and figures regarding the results Bruce-Macbeth gas engines are giving in different kinds of service. It also contains sections on producer gas plants, Bruce-Macbeth Engineering Service, How to Obtain Maximum Efficiency from Gas Power plants, and Meriam Steam Process, the new process discovered by Mr. J. B. Meriam, engineer and designer of The Bruce-Macbeth Engine Company, whereby low pressure steam for heating and industrial purposes can be generated as a by-product by the ordinary gas engine; also a section of Gas Engine Data for the operators of gas power plants. The booklet is illustrated throughout with reproduced photographs of Bruce-Macbeth installations.

* *

Efficient Nitrogen Street Lighting

The widespread use of the nitrogen lamp for street lighting has made it necessary to devise equipment which will furnish adequate ventilation to carry off the excessive heat which this lamp generates, in order that the



GLOBE AND VENTILATOR FOR USE WITH NITROGEN LAMP

rated life of the lamp may be maintained. The Macbeth-Evans Glass Company, of Pittsburgh, is making units which are said to combine all the essential features of such equipment. The ornamental globes are made

from either Alba or Monax glass. Monax is a new diffusing glass which, while it totally obscures the filament of the lamp, absorbs a very small percentage of the light. It has the appearance of alabaster or crystophane, but is not a cased glass. Because of its being a one-piece glass, and also because it possesses great heat-resisting qualities, it is exceptionally durable; it can also withstand rapid changes in temperature. The ventilator on top of the globes is made of heavy spun copper, and consists of three parts—the body, the weather cap and the knob, all held securely together by a heavy screw. This is designed to withstand the deteriorating effects of the weather for a great many years.

* *

"Chief, You'll Say the Same Thing!"

With this greeting the firm of James Boyd & Bro., of Philadelphia, devotes a recently-issued folder to the maintenance of the proposition that "Modern fire equipment pays." The thrilling story of a fire rescue is told:

"The Boyd aerial is in the fire house. An alarm comes in. Bing! Bing! Bing! The box truck is a mile away; the driver throws over a switch, and instantly the Boyd aerial is rolling toward the fire. At the end of four minutes, over rough roads, but causing no injury to the truck, due to the even distribution of weight and strong springs, the truck is in front of the burning building. A woman is caught on the fourth floor! There is no time to be lost! The roof is already sagging! A ladder-man runs out on the main ladder and seats himself on the end rung. The driver of the Boyd aerial pulls down one lever, and the main ladder shoots up with the man on the end. He snaps the ladder lock in place and pulls the same lever down once more. The turntable swings around. Gracefully and gently the ladder is swung into the burning building. The woman is rescued, the entire operation consuming less than one minute. The rescued woman and the fireman are swung out from the blaze and lowered to the street on the ladder as gently as if they were on an elevator. 'Modern equipment pays,' says the chief."

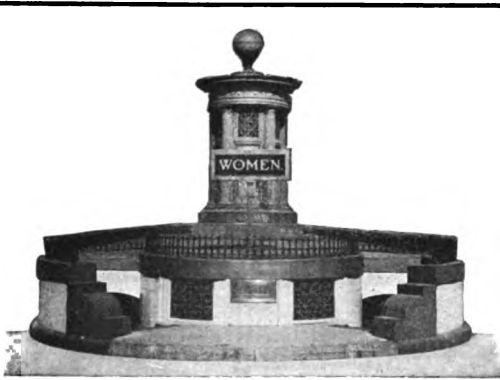
Great advantages are claimed for this aerial on account of its raising and lowering device, the even distribution of weight, the strong material, the simple and powerful worm and gear drive, the laminated ladder made of specially selected wood, and the powerful motor.

* *

A Combination Device for Pumping Plants

The foot valve and quick-cleaning strainer manufactured by the Emerson Pump & Valve Company, of Alexandria, Va., is a simple, strong and efficient device adapted to the suction or intake of any type of pump. It has been adopted by the United States Government, and is found in the equipment of some of the most extensive pumping plants in the country. It is pictured and described in a pamphlet gotten out by the company under the title of "Emerson Steam Pump Efficiency," and an illustration of it is reproduced on page 365 of this issue.

The foot valve proper is made extra heavy; although the gate valve has no spindle, spring or hinge, it operates freely in heavy guides cast in the valve body. This provides a simple, durable construction, and obviates all trouble



Public Comfort Station, Indianapolis, Ind.

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CLOW PLUMBING

a necessity in every Public
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 est quality of lighting fix-
 tures and giving, always,
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caused by the cramping of the gate or the breaking or bending of spindle or hinge when foreign substances, such as stones or chips, lodge under the valve gate. This feature also makes possible generous openings through the valve, with only a low lift of the gate, and prevents "hammering." Since the water enters the valve close to the bottom, a pump equipped with this foot valve is enabled to take practically all the water from a pit or sump before air can enter the suction pipe.

The strainer is raised and lowered by ropes; the whole operation of raising, cleaning and lowering it into position again takes scarcely a minute, does not require the removal of a single bolt or the use of a tool, nor does it disturb the suction pipe.

The strainer is made of heavy perforated flange steel. It is riveted to a substantial top casting having a collar which fits loosely around the suction pipe, so that it may slide up and down without cramping, the suction pipe acting as a guide. As the combined areas of the perforations greatly exceed the area of the suction pipe on which the strainer is used, a free and ample flow of water is always assured. The strainer is made to withstand all kinds of rough service, and besides being built in combination with a foot valve, is also made singly, supplied with a base.

✦ ✦

The San Antonio Lighting Standards

The city of San Antonio, Tex., has an ornamental lighting system which includes 110



THE SAN ANTONIO, TEXAS, COMBINATION
TROLLEY POLE AND STREET-
LIGHTING FIXTURE

standards on two principal business streets. A photograph of one of the lighting units is herewith reproduced. The brackets are made by the Union Metal Manufacturing Company, of Canton, Ohio. Nitrogen-filled 250-candle-power lamps are used, with Holophane shades.

✦ ✦

Protecting the Traffic Officer

The traffic officer's stand shown in the accompanying photograph is the invention of Freeborn Coggeshall, of Newport, R. I. It is a great aid in controlling traffic, forming a



A TRAFFIC OFFICER'S SHELTER

natural island for the proper diversion of vehicles. The umbrella relieves the officer from the blinding glare of the sun, and thus from undue fatigue in service. The mirror reflects all traffic approaching from the rear. A grooved rubber mat is used to stand upon in cold and damp weather, and a burlap curtain which buckles onto the first rod and extends around to the third gives further protection from wind and storm and yet leaves an opening for easy egress on the lee side. The stand is readily shifted to suit various conditions. Mr. Coggeshall has thoroughly tested its use himself and has been able to keep perfectly dry in bad storms, without overshoes or raincoat.

✦ ✦

Larger Quarters

The New York office of The Fibre Conduit Company, of Orangeburg, N. Y., is now at 101 Park Avenue, corner of 40th Street. This change has been made in order to get proper accommodations for the company's increased business, the new quarters being three times as large as the old.

NOVALUX Ornamental Units

By day, from the standpoint of civic beauty—its unobtrusiveness and adaptability to artistic treatment, tend to make the single light standard the first choice of good judges.

By night, a brilliant, soft illumination, flooding the streets, sidewalks and building fronts, is now possible by the combination of high candle power MAZDA series lamps and the Novalux Ornamental Units.

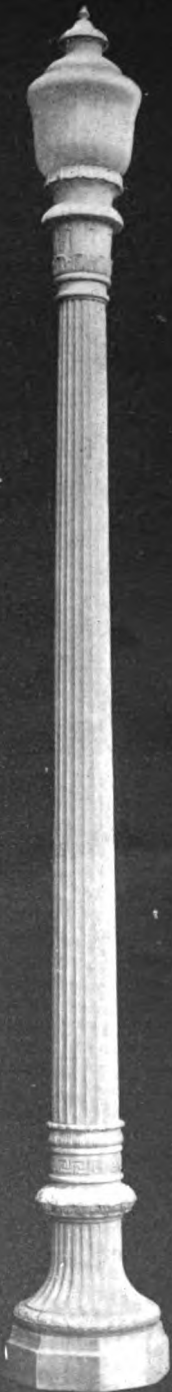
These units are scientifically designed to direct the light to the greatest advantage; built to thoroughly protect the lamp, artistic, pleasing — the Novalux Ornamental Unit by day as well as night is one of the most efficient and up-to-date forms of street lighting.

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5665



For Contractors and Boards of Public Works

"Made for You in Kalamazoo"

The Root adjustable sidewalk snow scraper is made by the Root Spring Scraper Company, of Kalamazoo. This device deposits all the snow on one side of the walk, either to the right or the left, and gives the same results



THE ROOT SNOW SCRAPER

either side up. It is adjustable to any width of sidewalk. The workmanship is of such a character as to withstand hard knocks. When collapsed the scraper takes up very little room, and it is like a sleigh for an overland trip. The illustration reproduced on this page shows the scraper in position for use.

✦ ✦

Concrete Mixers to be Rated Uniformly

The National Association of Mixer Manufacturers, at its August meeting, took steps toward the providing for the uniform rating of batch mixers. This resolution provides that the members of the Association in future catalogues and circulars shall specify the capacity of their mixers as "size of wet mixed batch," and not otherwise. The resolution further provides that the dry unmixed capacity of a mixer

may be approximated at one and one-half times the wet mixed batch, assuming the use of cement, sand and 1½-inch crushed stone, with 1¾ gallons of water per cubic foot of mixed concrete. The members of the Association further agreed not to use the dry batch rating in their correspondence, advertising, etc., unless the standard wet batch rating were used also and with equal prominence.

✦ ✦

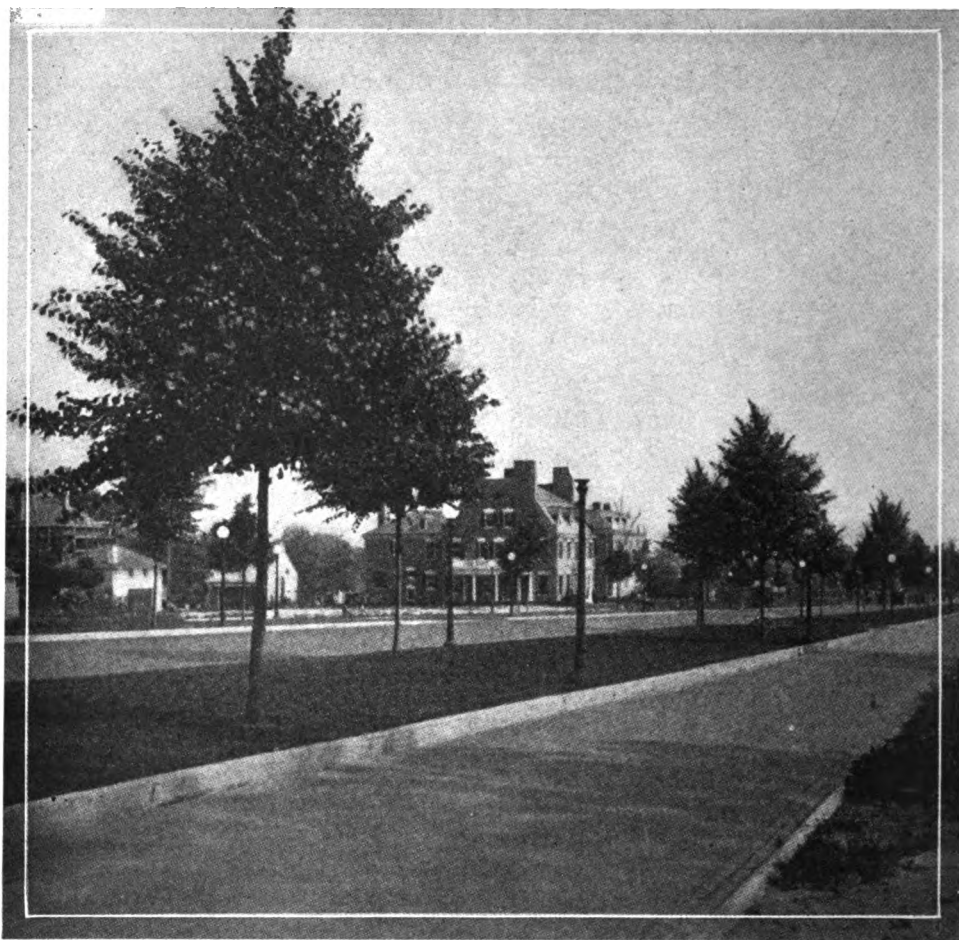
Cleaning and Sprinkling Streets

The Tiffin line of street sprinkling and flushing machines embraces not only horse-drawn sprinklers and flushers of gravity and automatic types, respectively, but gasoline motor pressure flushers and sprinklers mounted either on horse-drawn gear or Tiffin motor chassis. In a very attractive illustrated pamphlet of 16 pages, published by the Tiffin Wagon Company, of Tiffin, Ohio, these various types are presented. The company maintains a free information service, in order that any city or individual may intelligently determine the type of machine most desirable to use in each case. In applying for this service, data should be given on city water pressure, cost of water, area to be covered, street widths, grades, etc. All the Tiffin motor truck chassis used to carry the sprinkler and flusher truck models are built in the company's shops, which fixes the responsibility for the entire vehicle and insures promptness in making repairs and adjustments when need arises. The Tiffin 3½-ton, 900-gallon auto flusher is especially featured in this pamphlet; it is a combination constant pressure flusher and sprinkler, and is a universally useful machine. By a special attachment the auto flusher pumps its own charge from rivers or cisterns, where stand-pipe and hydrant filling are not available. A number of dumping wagons, open and sanitary for street cleaning and garbage collection are included in the catalogue. The company also builds upon specification many special designs for the miscellaneous needs of individual cities.

✦ ✦

Steel Forms for Sidewalks, Curbs and Sewers

The service offered by Blaw steel forms is set forth in an attractive folder issued by the Blaw Steel Construction Company, of Pittsburgh. It describes and pictures the use of these forms in the construction of concrete roads, sidewalks, curbs and gutters, in walls, columns, dams, piers, reservoirs, sewers, aqueducts, drains, water supply and railroad tun-



DEPARTMENT OF PUBLIC IMPROVEMENTS

Office of City Forester

H. K. McCAY, Chief Engineer

R. BROOKE MAXWELL, City Forester

THOS. MEEHAN & SONS,

Dresher, Penna.

Baltimore, Md., June 17th, 1915.

Gentlemen:—In the Spring of 1908 our Park Board purchased of you some 600 European Lindens of 3 to 3½ inch calliper. In 1911 they bought from you another lot of 326 trees of same variety and size. These trees were planted on Charles Street (extended) between 29th Street and University Parkway, and during the past four or five years I have had the opportunity of watching their development. The loss in this planting has been practically negligible, and the growth of the trees has been altogether satisfactory. I consider this tree an admirable one for street and park planting, and that its good points places it in a class above the average of our shade trees. I am so pleased with the species that I have used it in the planting of several of our fine streets during the past few years. I have every reason to continue my faith in the trees and hope to use some more of them as our funds here will permit.

Very truly yours,

R. BROOKE MAXWELL, City Forester.

nels, shafts and subways. The forms are designed for all engineering undertakings in concrete construction, no matter what the size or peculiarity. One set of side rails can be used for curb, curb and gutter, and sidewalk work; the Blaw slip joint connection fastens any number of side rails together in one easy operation. In wall construction the forms are set up and shifted by hand in units of 20 to 30 square feet. A standard panel is 2 feet square, flanged on four sides, and is built entirely of steel; vertical and horizontal liners assure the alignment. Forms for work on columns, heavy walls, sewers, etc., can be leased on reasonable terms.

✦ ✦

Removing Stoppages from Sewer Pipes

The Schick patent sewer and pipe cleaner, as illustrated herewith, is something entirely new in sewer cleaners. Designed to bring about a big saving for cities in eliminating trouble and expense. It is not necessary to dig up the street in order to remove stoppage from the sewer. The method of using the Schick plunger is quite simple; by connecting a hose to pipe or hydrant and turning on the water a sufficient pressure is obtained to entirely remove any ordinary stoppage. By getting down into the manhole the plunger can be easily inserted in the main pipe of the sewer. When the plunger has been properly inserted in the sewer pipe it forms an air- and water-tight joint; therefore, when the water pressure is turned on, all stoppage has to give way on the other end.

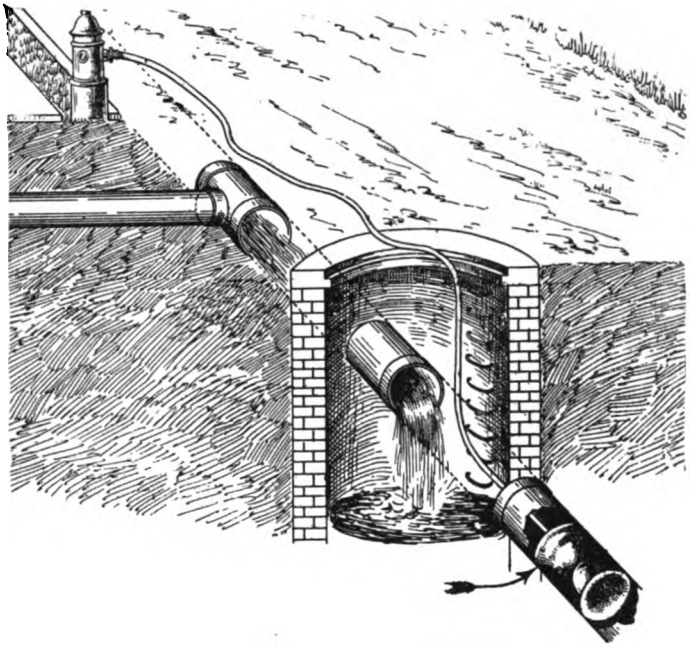
These plungers are a great convenience for toilets, sinks and small sewer openings in the cellar. A great number are being used successfully in all parts of the United States on account of the simplicity of operation and the positive effect.

Where the opening is 4 inches or larger in size, the plunger is inserted in the pipe. The illustration shows the plunger entirely inserted in the main pipe. High-grade rubber is used and a brass hose connection. For family use the 4-inch size is recommended, while for city sewer pipe, running from 8 inches to 12 inches, the 6-inch size should be used. This device is manufactured by the Davenport Manufacturing Company, of Davenport, Iowa.

✦ ✦

New Roads Out of Old

The interesting photograph herewith reproduced shows the Galion scarifier in actual work



THE SCHICK SEWER CLEANER

on the Lincoln Highway, tearing up an old macadam road and getting it ready to be repaved with brick. This machine is made by the Galion Iron Works & Manufacturing Company, of Galion, Ohio. It scarifies to a uniform depth of from 1 to 8 inches as desired, thoroughly, quickly and economically. An important feature is said to be that of absolute safety to the operator.



THE GALION SCARIFIER AT WORK ON THE LINCOLN HIGHWAY

THE AMERICAN CITY

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and Ready Roofings**

**J-M Transite Asbestos Shingles
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**J-M Asbestos-Metallic Brake Blocks
J-M Mastic Flooring
J-M Cork Floor Tile**

**J-M Pipe & Boiler Coverings
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**J-M Architectural Acoustics
Frink and J-M Lighting Systems**

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The cost of installing new standards in your city may be prohibitive.

However, your street railway company must have trolley poles on which to hang their wires. Why not, then, get them to co-operate with you in securing

ELRECO Combination Poles

—which will give you a white way as fine as any city at a much lower expense.

Wooden poles are an eyesore. ELRECO poles are an improvement and will last much longer.

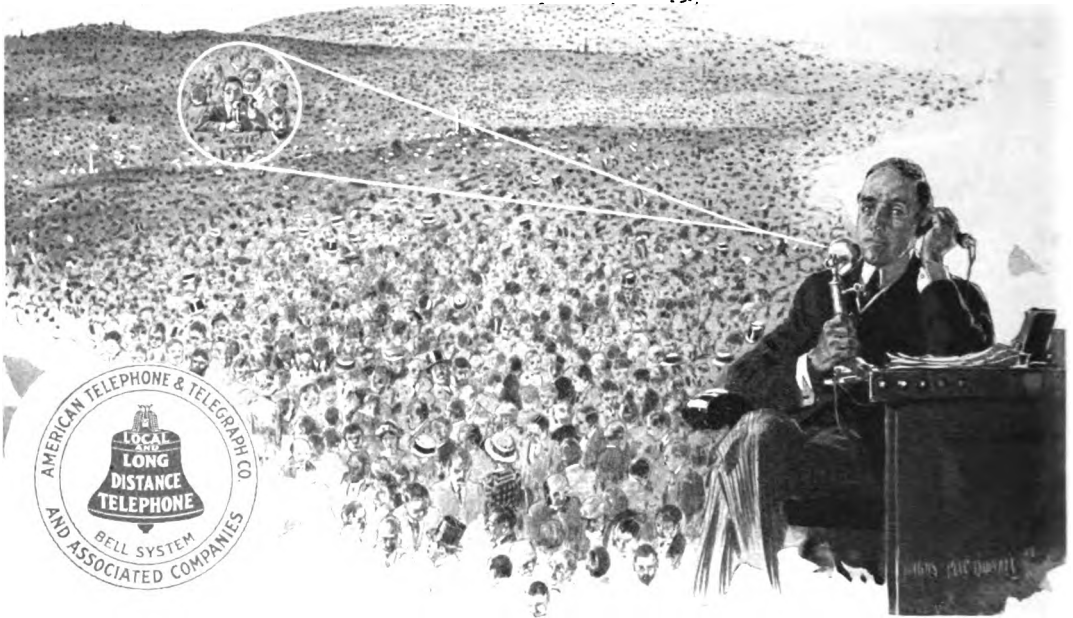
Put in the Mazda Type "C" Lamp and you will have brighter business streets at a low maintenance expense.

We have placed ELRECO poles in Pittsburgh, Niagara Falls, Milwaukee and other cities. Let us send you our catalogue "D" showing our complete line.

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We Save You
the cost of underground
construction.
the cost of extra lamp
standards.
the expense of high
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The Man in the Multitude

That the human voice may be transmitted across our continent by telephone is the marvel of this age of wonders. Yet the full significance of the achievement is not realized if it is considered strictly as a coast-to-coast connection.

The Transcontinental Line not only bridges the country from east to west, but, by having finally overcome the great barrier of distance, it has removed the last limitation of telephone communication between all the people of the nation.

This means that the voice can be sent not only from New York to San Francisco, but from *anywhere* to *anywhere*—even from *any one* to *any one*—in the United States.

Wherever you are, it is possible to reach any one of our hundred million population. You can single out from this vast throng any particular individual with whom you desire to speak.

To bring this about, the Bell System has spent years and millions, extending its lines everywhere, anticipating the ultimate triumph. It has had the foresight and the courage to unite this great country, community by community, into one telephone neighborhood.

With success achieved by the Transcontinental Line, the established Bell highways make you, wherever you are, the near neighbor of your farthest-away fellow citizen.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY

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Universal Service

The National Municipal League Series

Edited by Clinton Rogers Woodruff

Satellite Cities

By GRAHAM ROMEYN TAYLOR

Congestion with all that it means in choked streets, dark workrooms, and high taxes has been forcing factories to our city limits and beyond. Industry must seek the city's edge. The civic problems which have arisen because of this condition have been the subject of much study and investigation by the author and in this volume he points out the serious consequences which would result from a continued disregard of this important feature of our civic and social life and details, with the opportunity for community development in accordance with the new science of town planning. Various towns and cities, such as Pullman, Granite City, Gary, and Fairfield, started by industrial establishments in the vicinity of large cities, are discussed in detail—the history of their foundation, their management, and the reasons for resulting success or failure. Because Mr. Taylor's style is decidedly readable, the book will be of interest not only to those immediately concerned in civic development, but also to the man who is interested in the things other people are doing.

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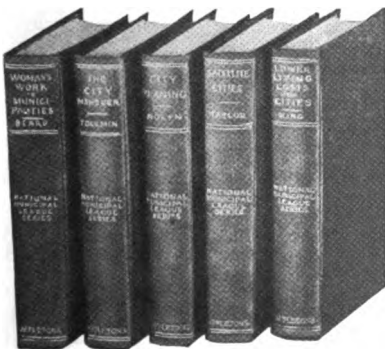
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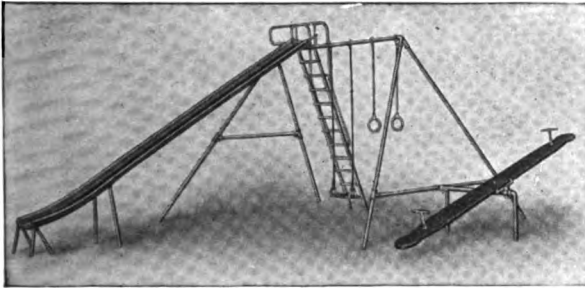


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QUINCY ILL.

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5. "When this campaign is over are we going to find ourselves saddled, as some other chambers of commerce have been, with a lot of promises we can't possibly keep?"
6. "Is it your plan to simply scoop up some money for a few weeks' work and then go away and leave us shift for ourselves?"
7. "Your permanent usefulness to us depends on your own ability to stay in the field. What proof can you give us of this?"
8. "If you did provide our Chamber of Commerce with a strong organization, ample funds, and vigorous moral support, what would it do then?"
9. "What proof can you give us of your ability to bring this strength to *our* organization?"
10. "Why can't we do this work ourselves?"

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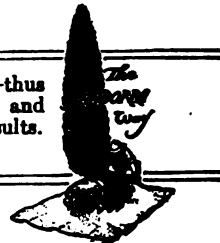
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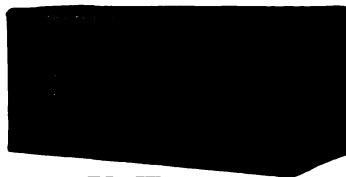


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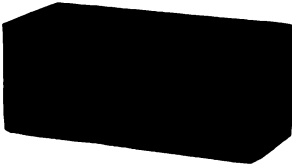
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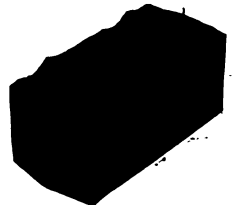
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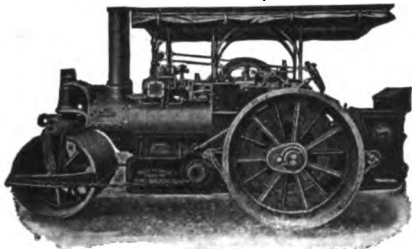
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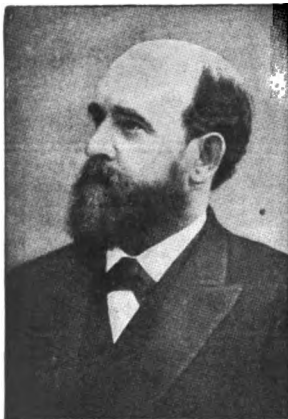
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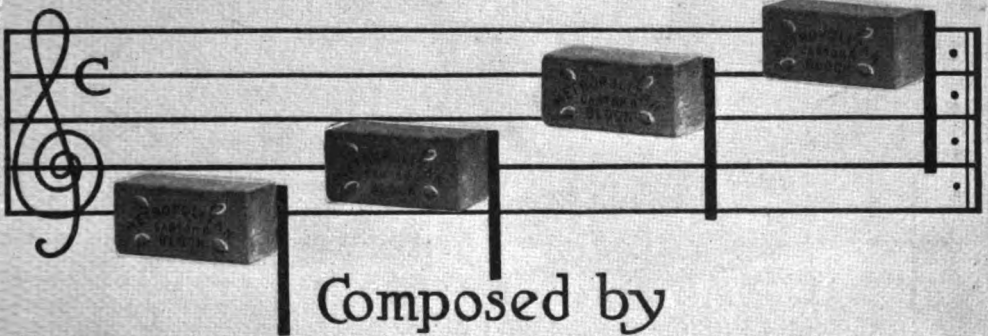
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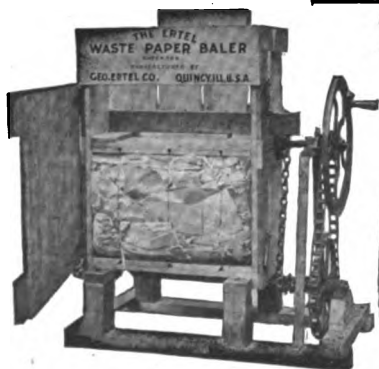
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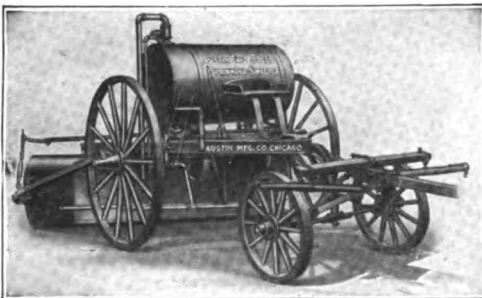
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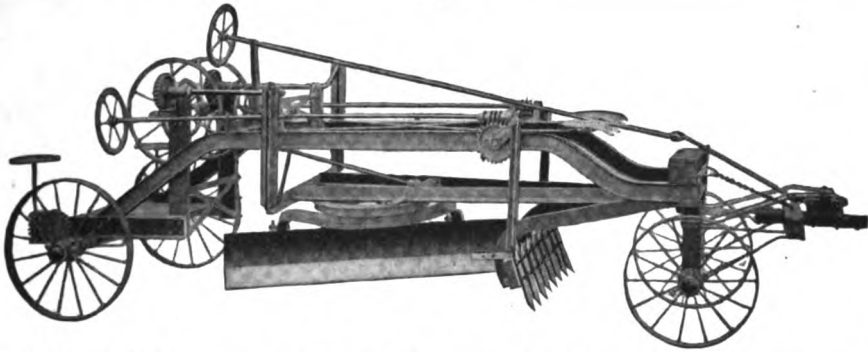
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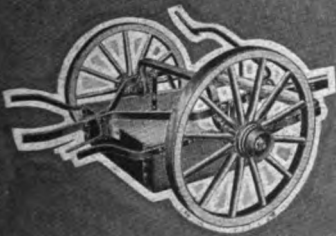
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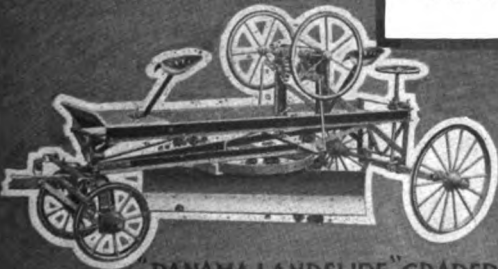
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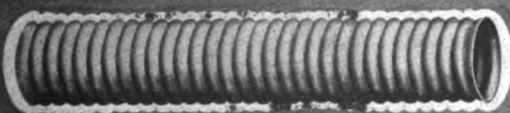
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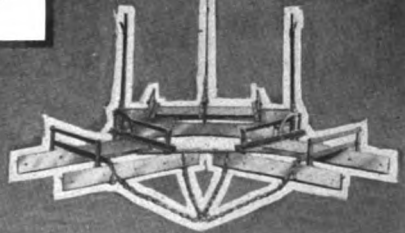
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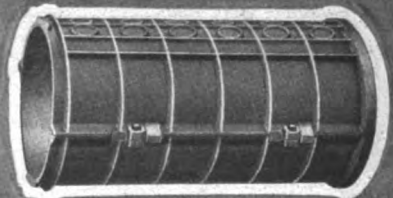
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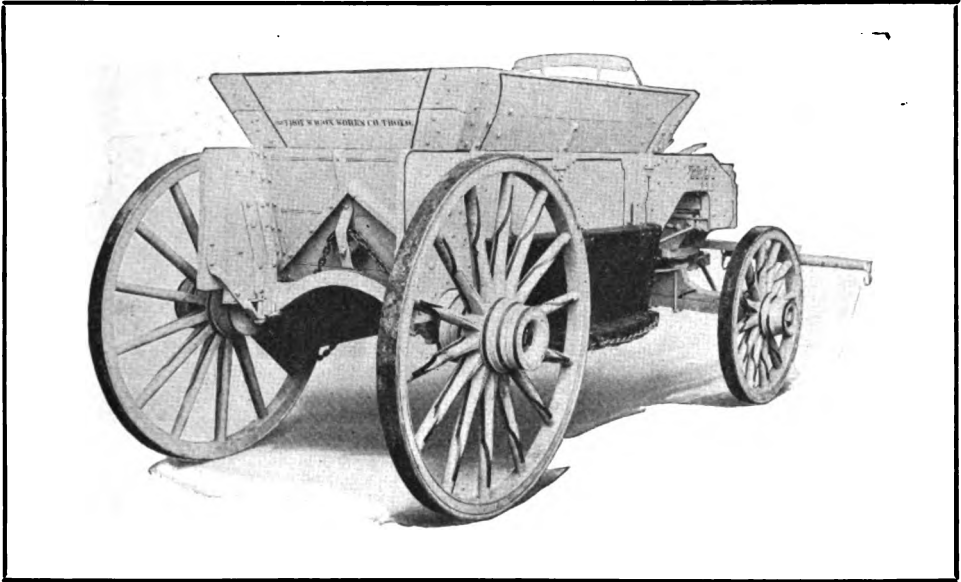
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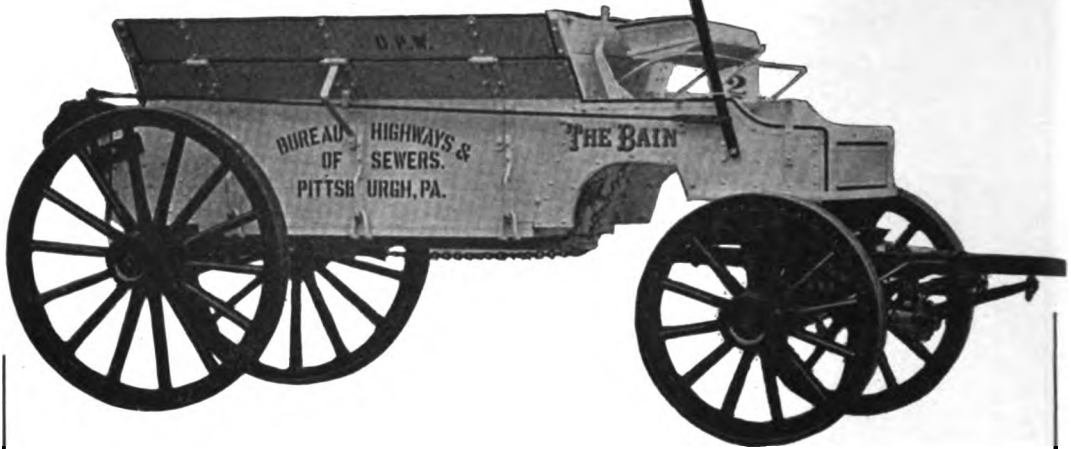
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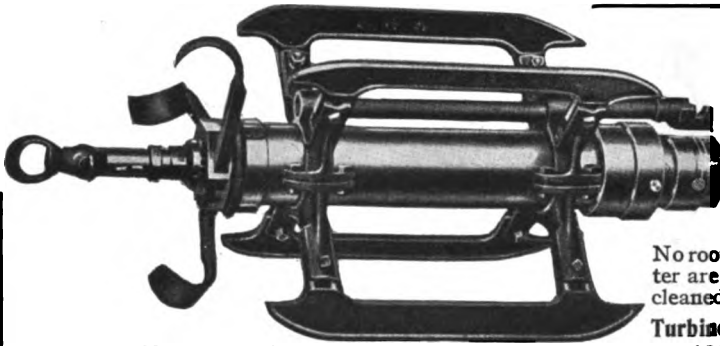
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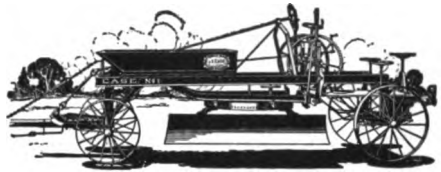
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Despite adverse weather conditions 1200 miles of road was resurfaced with Atlantic N. C. B. Asphalt or received an application of Atlantic Asphalt Road Oil within four months. Probably nowhere has this record been equaled, and it was made possible because of The Atlantic Refining Company's complete road-treating equipment.

ATLANTIC ASPHALT

is refined from high-grade Mexican crude. It is absolutely uniform in quality and contains the highest percentage of bitumen. It is highly cohesive and adhesive and, being entirely free from soluble salts, is permanently waterproof. Atlantic Asphalt product consists of

Atlantic Paving Asphalt **Atlantic Penetration Asphalt**
(For Hot Mixing Method) (For Penetration Method)

Atlantic N. C. B. Asphalt **Atlantic Asphalt Road Oil**
(For Surface Treatment—Applied Cold) (For Dust Laying, Waterproofing, Preserving)

We welcome correspondence enabling us to make specific recommendations in the solution of your road problems. Our Engineering Staff is always at your service.

THE ATLANTIC REFINING COMPANY

Philadelphia

*Sustaining members of the
American Highway Association*

Pittsburgh



He Stands Firm—

not only upon this culvert but on the belief that

"Genuine" Open Hearth Iron "Culverts

are just the kind for his use. He knows that they are 99.875% pure. The government has tested them and proved it. He saves time in setting them. These culverts come just the length you require—no tools or fitting necessary.

Write for our booklet and prices.

NEWPORT CULVERT CO. Inc., Newport, Ky.

LINDEN AVE.

OHIO VALLEY ENAMELING COMPANY

West Lafayette, Ohio

You Can Economize

by letting us quote you OUR prices for enamel steel Street Signs and House Numbers. These signs are made of 18-gauge steel, and are covered with 5 coats of porcelain enamel. We also carry a large selection of stock signs. Estimates furnished to highway officials, municipalities and individuals.

THE WAINWRIGHT GALVANIZED STEEL CORNER BAR

stays firmly in place, without requiring the aid of Clips, Bolts, Prongs or Hooks; is not a mere shell held in place at intervals, with no intervening anchorage; liable to be displaced by frost, or shock of blows between so-called holding devices.

Steel Protected Concrete Co.,

Real Estate Trust Bldg.
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3 times
more



streets can be made nearly spotless at just about half the cost with a

Baker Dustless Pick-up Sweeper

than by the broom brigade method.

And, instead of blowing up dirt into the eyes and noses of your citizens, the Baker Sweeper wets the dirt on the streets, then picks it up and carries it away. Not a bit of dust. Cleans at one-third the cost of flushing.

Write for letters of approval by cities using the Baker Sweeper. Actual performance convinces.

The Baker Mfg. Co.

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Or Baker-Barron, Inc.
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SWEEPING STREETS WITHOUT DUST

Wastes on Repair Jobs—Saved "TARCO"



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Heating
Kettle and
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The TARCO Combination holds 10 gallons. It's small but just right for a small job.

This combination can be used practically on any small job and is suitable for heating and pouring all kinds of bituminous road preparations. It takes less men, less time and less money to operate.

Let us send you information about how it is built. Write now.

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is when you buy a disappointment—no matter how little it costs.

“Saving” a few cents a yard on an asphalt pavement by the use of manufactured asphalt is one way of buying a paving disappointment.

Paving economy is derived from quality of materials and workmanship—not from price. Highest quality is never obtained at lowest first cost.

Trinidad Lake Asphalt has proved in 35 years of service that it is worth all and more than the difference between its cost and that of inferior substitutes.

These are good things to remember the next time a paving proposition comes up in your community.

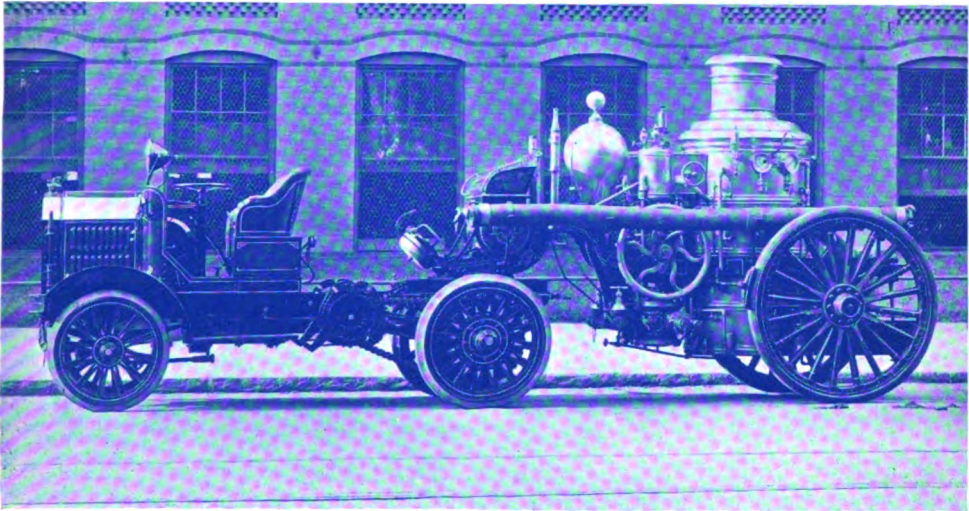
The Barber Asphalt Paving Company
Philadelphia, Pa.

**Trinidad Lake
Asphalt**

**Bermudez Road
Asphalt**

**Trinidad Liquid
Asphalt**

The *Knox* Detachable Tractor



Tractorize Your Present Equipment

No need to discard your steamers, ladder trucks, water towers or other equipment which is time-tested and thoroughly reliable.

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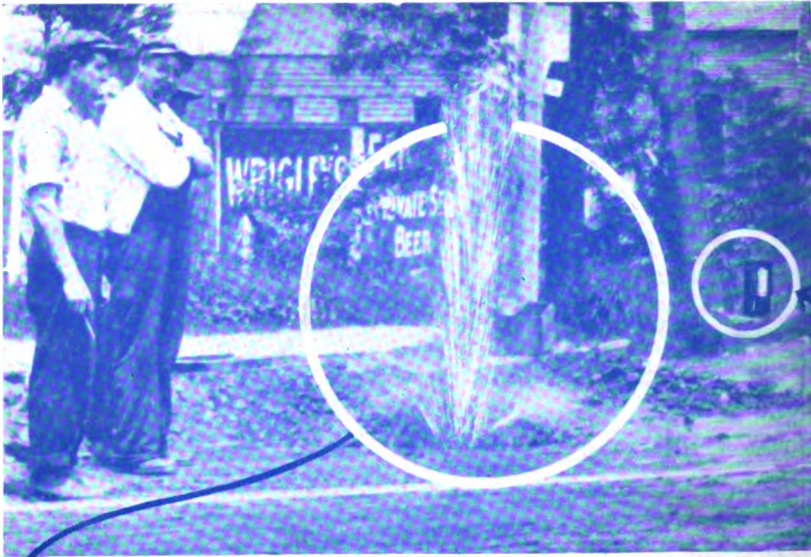
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This Leak Cost \$10,000 Yearly

This is quite a sum for a small New York suburban town to lose each year, but their water meters showed that only 40% of the water pumped was being used.

The Pitometer discovered it

Attempts were made to find the cause of this discrepancy but without success.

Finally the Pitometer, under our direction, was put to work to find the cause. Within four days, a blowout was discovered in a six-inch water main. There was no evidence of this leak on the surface. The water was escaping into a sewer.

One water department official of this town wrote:

"After the leak was repaired we figured up our meters again and found that we were saving over \$10,000 a year. I can say that I think there was no other way in which this leak could be located without the PITOMETER, as I passed over the spot where the leak was found almost daily and never noticed it."

The "Cole" Recorder

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Operates under a New Principle

which guarantees its accuracy at low velocities as well as high.

Write for booklet.

Perhaps you are losing money in the same way and don't know it. Just put your problem before us and let us tell you what we have done for cities such as Montreal, Toronto, Dayton, Ohio, Trenton, N. J., etc. Write now. It may mean dollars saved.

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LANDSCAPE ARCHITECTURE

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NEW YORK

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SAN FRANCISCO

*A Monthly Review of
Municipal Problems
and Civic Betterment*

NOVEMBER, 1915


25 Cents

\$2.00 a Year

"Through the influence of THE AMERICAN CITY much has been accomplished in our cities within the last few years toward the improvement of street lighting fixtures, but the good work has rarely extended to an improvement of park lights."—GEORGE BURNAP,

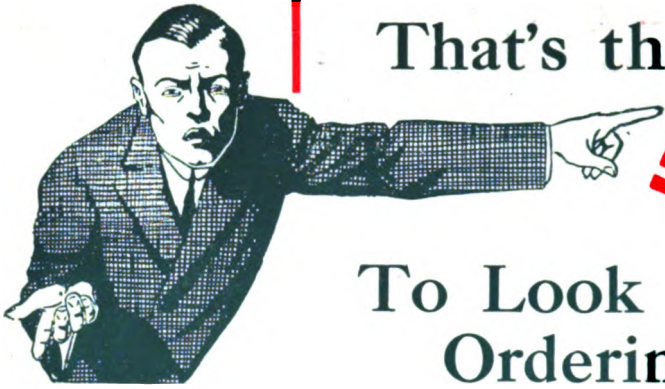
*Landscape Architect of Public Buildings and Grounds
Washington, D. C.*

(See article on "Park Utilities" in this issue)



Light standard in
Potomac Park,
Washington, D.C.,
showing how vines
may be used to
bring light stand-
ards into park
character

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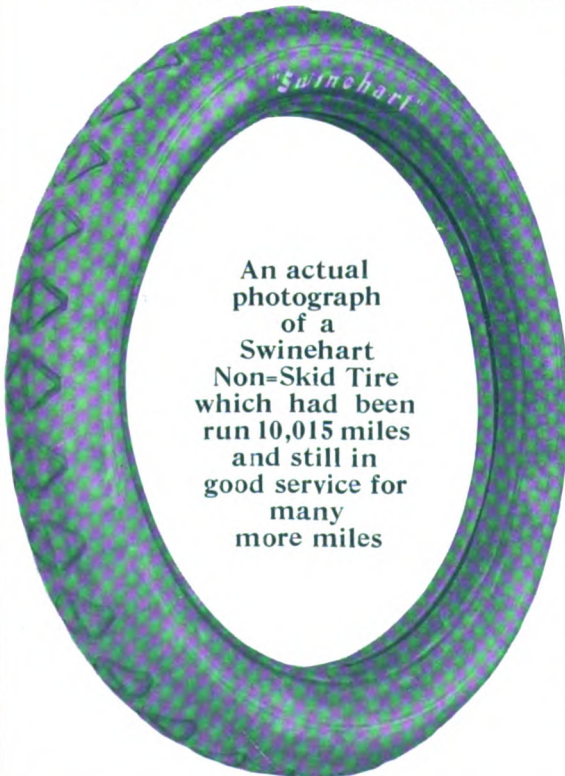
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Swinehart

To Look For When
Ordering Tires

Its appearance guarantees both you and your customers against inferior materials and workmanship.

Swinehart **Pneumatic Tires**



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photograph
of a
Swinehart
Non-Skid Tire
which had been
run 10,015 miles
and still in
good service for
many
more miles

Are noted for their long life strength, and wear-resisting qualities.

Made by the double-cured, wrapped thread method of construction—the best way.

Better write for a copy of the Swinehart catalog. It shows our entire line of pneumatic tires—non-skid, plain thread, and also our inner tubes.

Write for agency and distributors' proposition. Good territory still open.

**The Swinehart Tire
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THE AMERICAN CITY



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Our facilities for such service are exceptional. Large pipe and special fittings, favorably located in the East, South, and West, afford ample capacity, and with the adequate stocks carried, insure prompt shipments of pipe for large or small orders. Rigid inspection and testing guarantee a high quality of product. An efficient organization is prepared to study your problems, and correspondence on special subjects is invited.

We make

"U. S. CAST IRON PIPE"

in all types and sizes from 2-inch to 84-inch—also Fittings and Miscellaneous Castings of all descriptions.

Bear us in mind for your next rush job.

"U.S. FOR QUICK SERVICE"

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From recent press reports

New Water Main Completed

Portland, Ore.—Work on the 30-inch reinforcing water main laid to the Vernon standpipe has been completed. The laying, with derricks, was accomplished without mishap. Each section weighed two tons and was 12 feet long. The cost of the main was approximately \$180,000. The accompanying illustrations show the sections along the right of way and the pipe in the treuches.

A City That Refused to Mortgage Its Children

WHEN the citizens of Portland, Oregon, faced the need for this line of 30-inch pipe they turned a deaf ear to the arguments of cheapness (?) advanced by the manufacturers of substitutes for Cast Iron Pipe.

These taxpayers knew that Cast Iron Pipe made more than 250 years ago is still in use, as good as new, and that no Cast Iron Pipe has ever been replaced because of having rotted out, rusted out or worn out, under normal conditions of service.

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And so these wise citizens refused to pass the burden of replacement on to their children—they installed Cast Iron Pipe—the Pipe of Centuries Service.

The following makers of Cast Iron Pipe and Fittings are independent of each other and competitors; inquiries may be sent to any or all of them with assurance of prompt and full response:

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Emaus, Lehigh Co., Pa.
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Lynchburg Foundry Co.
Lynchburg, Va.
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Massillon, Ohio



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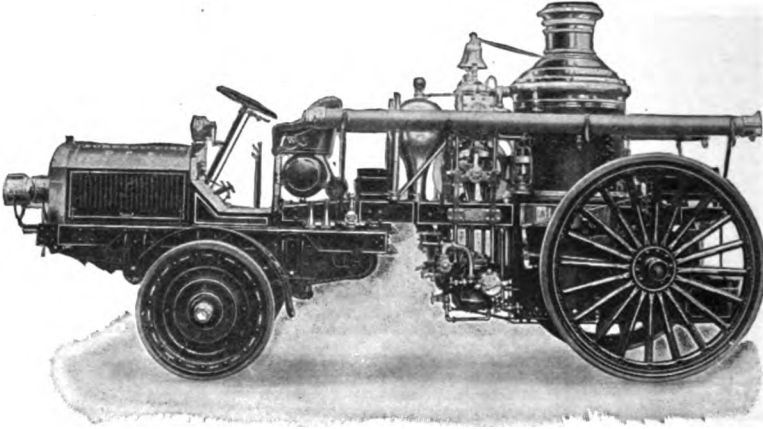
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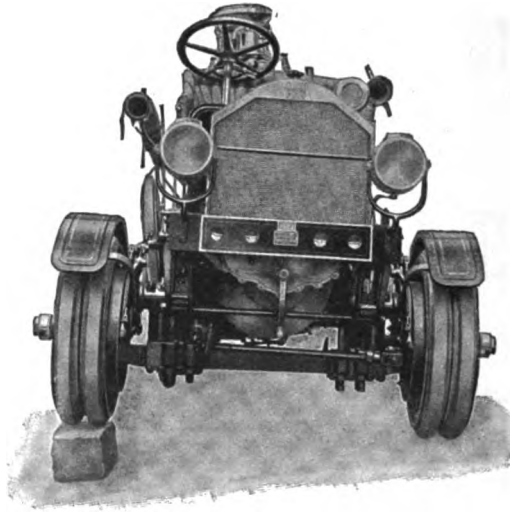
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For Horse or Motor Driven Fire Apparatus

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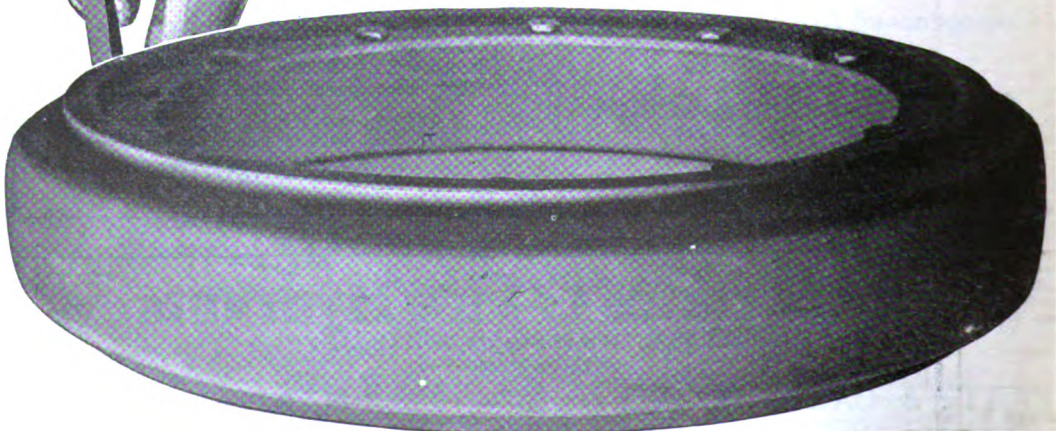
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Resiliency with road grip and endurance are vital essentials in heavy work and Firestone Solid Tire Equipment supplies all three in the maximum. Sidelash and vibration are greatly reduced. There is also economy of repairs, long life to mechanism and comfort to men. Firestone Non-Skid Pneumatics for light apparatus afford security at high speed, extra protection from vibration and the economy of

Most Miles per Dollar

Firestone Tire and Rubber Co.

"America's Largest Exclusive Tire and Rim Makers"
Akron, Ohio—Branches and Dealers Everywhere



Proposal and For Sale Notices, Help Wanted and Situation Wanted Advertisements, Etc.

ENGINES AND PUMPS

CITY OF CLARKSBURG, W. VA.

Sealed proposals for furnishing all labor and materials and installing complete with appurtenances two gas engines and two pumps at the existing pumping station of the City of Clarksburg, W. Va., will be received by the Water-Works and Sewerage Board of said city at the office of the Secretary, Scotland G. Highland, until 12 o'clock, noon, Friday, November 26, 1915, in accordance with the plans and specifications on file at the office of the Board and at the Office of George W. Fuller, Consulting Engineer, 170 Broadway, New York City, from whom copies may be obtained.

Proposals shall be made on the blank forms to be obtained from the Secretary or the Consulting Engineer, and shall be sealed and filed with the Secretary of the Water-Works and Sewerage Board on or before the hour above stated.

All proposals will be considered informal and rejected which contain bids not asked for, or which do not contain prices in both words and figures for all items of any group upon which bids are asked, or which otherwise are not in conformity with this notice.

Each proposal shall contain the full name of every person, firm or corporation interested in the same, and the address of the person, firm or corporation and secretary of the corporation bidding, and shall be accompanied by a certified check upon a National Bank drawn to the Treasurer of the City of Clarksburg, W. Va., in the sum of Three Hundred (\$300.00) Dollars for each of Contracts A and B.

The bidders to whom the contracts may be awarded shall attend at the office of the Board in Clarksburg, W. Va., with the sureties offered by them within five days (Sundays excepted) after the date of the notification by the City of the acceptance of their proposal, and there sign the contract in triplicate for the work. In case of the failure so to do, they will be considered as having abandoned the same, and the certified checks accompanying the proposal shall be forfeited to the city.

The checks of all unsuccessful bidders will be returned upon demand, and also the checks of the successful bidders upon the execution of the contract and the furnishing of the required bond.

A bond in the sum of Twenty-five (25%) Per Cent of the amount of the contract with sureties satisfactory to the Water-Works and Sewerage Board will be required for the faithful performance of the work.

Drawings and specifications showing the arrangement and construction of the machinery offered and all important dimensions of the parts and material used in construction of same shall be submitted with the proposals.

Bids will be received separately for Contracts A and B. The Board reserves the right to reject any and all bids.

(Signed) SCOTLAND G. HIGHLAND,
Secretary.

(Signed) TRUMAN J. LYNCH,
President.

GEORGE W. FULLER,
Consulting Engineer

WATER WORKS EQUIPMENT

VENTNOR CITY, N. J.

Sealed proposals will be received by the Common Council of Ventnor City, when called for by the President, at a meeting of that body to be held on Monday, November 22, 1915, at 8 o'clock P. M., in the Council Chamber, City Hall, Ventnor City, N. J., for furnishing, delivering and erecting a complete mechanical equipment of an Artesian Water-Works Plant, including new building for housing the new and old machinery, comprising the following:

New Pumping Station.

Concrete Foundations for all new and old machinery.

One Triple-Expansion Direct-Acting Pumping Engine.

One Cross-Compound, Two-Stage Air Compressor.

One High-Speed Engine with Direct-Connected Electric Generator.

One Surface Condenser, with Combined Air and Circulating Pump.

Two Feed Water Heaters.

Removing and Resetting Two Old Air Compressors.

Removing and Resetting Two Old Pumping Engines.

Repeating Four Artesian Wells.

Suction and Discharge Mains to Pumps and Reservoir.

Steam and Exhaust Connections to all Machinery.

Resetting Water Meter.

New Switchboard, with all Instruments and Connections.

All in accordance with plans and specifications, therefor, which will be furnished to prospective bidders upon a deposit of \$25.00 with the City Clerk. Said amount will be refunded upon the return of Plans and Specifications, provided the same are returned within ten days after the award of the Contract.

Each proposal must be accompanied by a certified check to the order of Robert W. Bartlett, City Treasurer, in the sum of 5 per cent of amount of each bid, or same will not be considered; a bond in the sum of 50 per cent of the contract price will be required for the faithful performance of the contract.

The Common Council reserves the right to reject any or all bids, waive technical defects, or accept any bid, if deemed to be for the best interest of the City.

E. STEELMAN ROYAL, City Clerk.

Dated October 25, 1915.

Graduate Engineer, age 35, of good executive ability, wants position as City Manager, water superintendent or City Engineer. Has been city engineer and superintendent of water, street and sewer departments of small city, and in charge of reservoir and sewage disposal construction and design, and other municipal works for 10 years. Best references. Box 41, care THE AMERICAN CITY.

WANTED—Position of Manager of Light and Water Plant in a clean, live City of 5000 to 10000. I have a good record as a Municipal Manager and can produce results with your Plant. Age 35. Address Box 42, American City.

CITY MANGER

Municipal engineer with many years experience as city engineer and other municipal work, extensive experience in paving and sewer construction and well informed on details of city administration, desires appointment as city manager or engineer in a commission managed city. Address Box 43, AMERICAN CITY.

CITY ENGINEER

Extensive experience in the design and construction of pavements and sewers, city planning and other municipal work. Long experience as city engineer, up to date on modern management of municipal affairs, desires appointment in a progressive city. Address 44, THE AMERICAN CITY.

MUNICIPALITIES

DESIRING A

**Park Superintendent,
Engineer, Forester,
or Landscape Architect,**

Communicate with

**AMERICAN ASSOCIATION
OF PARK SUP'TS**

R. W. OTTERBILL, Sec. SEATTLE, WASHINGTON

An Interesting Catalogue of Books

On Municipal Improvements
will be sent FREE on request by

THE CIVIC PRESS, Fulton Building, New York

What Dates Shall We Reserve For Your City?

The American City Bureau's
EXHIBITION OF AMERICAN AND FOREIGN CITY PLANNING
is booked for ten days each for
BOSTON in November, 1915 **SYRACUSE** in December, 1915
NEW HAVEN in January, 1916

Shall we send you copies of letters from cities in which the Exhibition has been shown? The following excerpts are typical:

NEW YORK CITY, N. Y.

GEORGE McANENY, President, Board of Aldermen: A comprehensive and well developed collection of exhibits, bound to stimulate interest wherever shown.

LOS ANGELES, CAL.

SIEGFRIED GOETZE, Civic Architect and Landscape Engineer: Your exhibit was the foundation of the organization of the City Planning Association of Los Angeles.

SAN FRANCISCO, CAL.

M. M. O'SHAUGHNESSY, City Engineer: A very valuable influence in educating the citizens. In future, all work of a similar kind will have my hearty support.

OAKLAND, CAL.

FRANK K. MOTT, Mayor: I express my satisfaction with the interest which the exhibit developed in Oakland.

CINCINNATI, OHIO

T. C. POWELL, President, Chamber of Commerce; Vice-President, Queen & Crescent Railway System: I congratulate you on the City Planning Exhibit brought here under the auspices of the United City Planning Bureau. I spent several hours on different occasions inspecting the exhibit. It well repays a prolonged study.

TORONTO, CANADA

THOMAS ADAMS, Town Planning Advisor, Commission of Conservation, Canada: I am glad to express my appreciation of the value of your excellent exhibition on city planning. In the process of educating the public, nothing is more valuable than a good exhibition. I am sure the average city would find it a good investment.

SANTIAGO DE CHILE, S. A.

DON ENRIQUE DÖLL, Commissioner-General for the Municipal Congress of Chile: The commission organized by the Congress of Municipal Government is completely satisfied. Representatives of municipalities have been much inspired.

RICHMOND, VA.

GEORGE AINSLIE, Mayor: I know of nothing else in existence that can give so much practical instruction in the same time and at the same cost.

NEWARK, N. J.

HARLAND BARTHOLOMEW, Secretary City Plan Commission: Has proved beneficial not alone to the thousands who saw it, but it has served to foster a somewhat closer co-operation.

JERSEY CITY, N. J.

ERNEST H. ROWE, Executive Secretary, Chamber of Commerce: A most valuable contribution to create public opinion for the planning of this city.

For dates and terms, address:

AMERICAN CITY BUREAU, 87 Nassau St., New York

BOYD AERIAL TRUCK

The Quickest & Best Hoisting Device on the Market

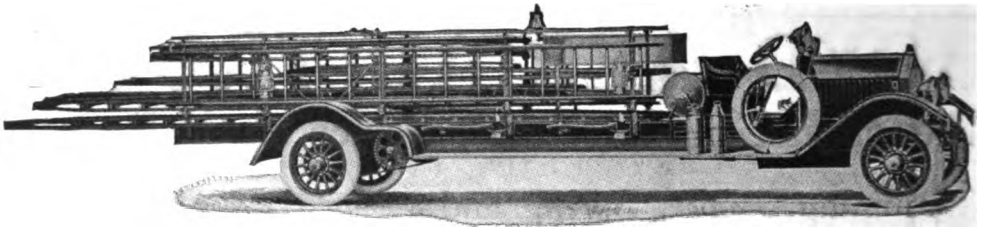
Combining *Power, Spring* and Hand Hoist. Can be operated with ease by one man, and extended to full height of 85 ft. in one minute.

Note the Rigidity of the Ladder



Manufactured by
JAMES BOYD & BRO., Inc.
"Builders of the Best"
25th and Wharton Streets
Philadelphia, Pa.





A High Class Type of City Service Truck

Before purchasing your new service truck, let us have your name and address. We will send you some important reasons why South Bend Double Duty apparatus stands for

Quality and Service

We manufacture all kinds of motor-driven apparatus for municipal use—fire trucks, police patrols, ambulances or service trucks of the highest type of construction.

South Bend Motor Car Works, South Bend
Ind.



Republic Quality Hose

FIRE HOSE

Cotton, Rubber Lined Rubber Chemical
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STREET WASHING HOSE

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MOLDED GARDEN AND WATER HOSE

In. Lengths up to 1000 Feet

RUBBER VALVES

THE REPUBLIC RUBBER COMPANY

YOUNGSTOWN, OHIO, U. S. A.

The far-reaching tones of New Departure Fire Bells

rise clear and distinct
above the din of traffic

"FIRE!" is the first thought of all who hear them. ¶ The public never stop to see what's coming. ¶ They know. ¶ They get out of the way. ¶ The road is cleared, instantly, instinctively. ¶ No other alarm will do this. ¶ New Departure Fire Bells are used on apparatus in the largest cities, in the smallest towns.

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THE NEW DEPARTURE MFG. CO.
BRISTOL, CONN., U. S. A.

Empire Rubber & Tire Co.

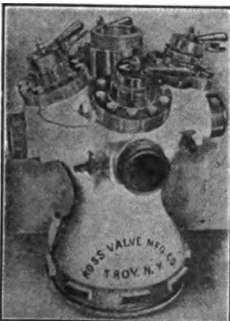
Manufacturers of

HIGHEST GRADE FIRE HOSE



also Garden Hose and a
complete line of mechanical
rubber goods.

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High Pressure Fire Specialties, Portable Hydrant Heads

Our Regulating Valves control the high pressure on the Fire Service Systems of

New York
Brooklyn
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Manufacturers of Water
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Water Filters.

ROSS VALVE MFG. CO., Troy, N.Y.



Speed and Safety in Fire Truck Tires

52½ per cent of all the motor driven fire apparatus manufactured last year was equipped with Goodyear Fire Truck Tires.

There were 492 City Fire Departments using Goodyear Tires. 78 Cities already using Goodyears, specified them on new apparatus purchased.

This is the Goodyear record on which to base your judgment. On request from you we gladly send complete Goodyear Fire Truck Tire Book, "Getting to the Fire."

The Goodyear Cushion Fire Truck Tire is designed for the heaviest apparatus. For speeds not to exceed 35 miles per hour it is without a peer. The patented undercut sides, slantwise bridges and resilient construction take up the shock, strain and jar without injury to truck.

The Goodyear Pneumatic Tire with the All-Weather Tread is the ideal extra-strength tire for lighter equipment. This tire affords complete protection from vibration when going at high speed. It has all the Goodyear features that insure security and obviate rim-cutting, skidding, tread separation and blowouts.

The Goodyear Tire & Rubber Co.
Akron, Ohio

GOODYEAR
FIRE TRUCK TIRES

\$100 Saved in Fire Equipment May Cost a \$100,000 Fire Loss

That's why we try to see how well we can build the Ahrens-Fox Fire Engine—not how *cheap*. When fire equipment is called into service HUMAN LIVES and valuable property are at stake—so that the *best* equipment is none too good—and you get *before-hand* quality assurance when you invest in

AHRENS-FOX

America's Foremost Fire Engine

HERE IS THE PROOF

The Ahrens-Fox has broken all records for dependability and durability by winning in Official Tests at the International Fire Chiefs' Conventions.

THREE PERFECT SCORES

1913	-	-	New York
1914	-	-	New Orleans
1915	-	-	Cincinnati

Write for Facts

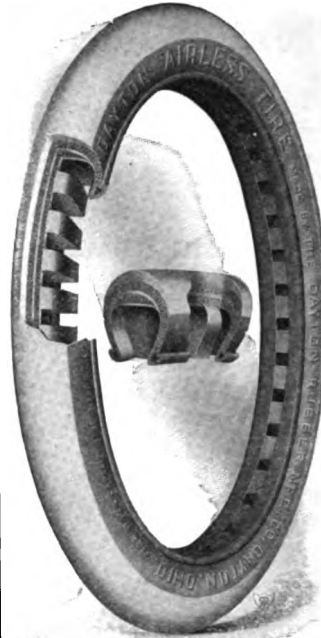
Let us tell you more about the Ahrens-Fox—ask us for these Official Test Figures. Also our catalog illustrating and describing the world famous Ahrens-Fox. Write today—get the facts.

THE AHRENS-FOX FIRE ENGINE CO.

CINCINNATI, OHIO, U.S.A.

J. A. PRESCOTT,
905-7 Widener Bldg.,
Philadelphia, Pa.
(Eastern Pennsylvania Representative)

DAYTON AIRLESS TIRES

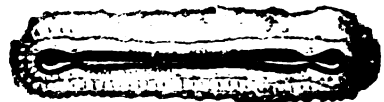


are the only tires which fulfill all the requirements for motor fire service. They cannot puncture—cannot blow out—safe at any speed—do not jolt or jar the mechanism of your apparatus, thereby eliminating all repair bills—always ready for the hardest kind of service.

Insist on Dayton Airless.

THE DAYTON RUBBER MFG. CO.
1013 Kiser St. Dayton, Ohio

Bi-Lateral Fire Hose



End View of Bi-Lateral Hose Flattened

Will not crack

There is nearly two and a half times the usual amount of service in Bi-Lateral Fire Hose. Judge for yourself:

The rubber lining is left free from its jacket in Bi-Lateral Hose where congestion takes place in hose of old construction. By allowing the rubber lining here its freedom, when the hose is flattened, the Bi-Lateral tube takes two curves at the points of fold, which relieves the compression (see illustration) whether the hose is flat or under pressure.

It is the most pliable hose made and can be flattened without injury.

Bi-Lateral Fire Hose Co.

326 W. Madison St.

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THE GAMEWELL FIRE ALARM TELEGRAPH CO.



"Registered U. S. Patent Office"

**Manufacturers of
Fire Alarm and Police Signal
TELEGRAPHS
for
Municipalities and Private
Parties**

The Gamewell system of to-day is the outcome of the combined inventive genius and mechanical skill of many whose valuable services the company has been able to secure during the past fifty-seven years, in pursuance of its policy of meeting at any cost the requirements of the varied conditions existing in different localities.

Correspondence Solicited.

**General Office and Works:
Newton Upper Falls, Mass.**

A Fire Hose

of unusually careful manufacture

Wax and Para Gum Treated

The lining is of fine Para Gum, hand made, four calendered, smooth bore or lap-jointed.

Circular balance woven, each strand of cotton is treated to a bath of melted Wax and Para Gum, then cabled and woven into the jackets.

Absolutely waterproof, making the ideal hose for fire departments.

Treatment lubricates and solidifies the strands of cotton, assuring long wear.

Made in all sizes from
1 to 6 inches inside diameter

Fabric Fire Hose Co.

Corner Duane and Church Streets, New York

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*Patented and
Sole Manufacturer*

R.D. Wood & Co.

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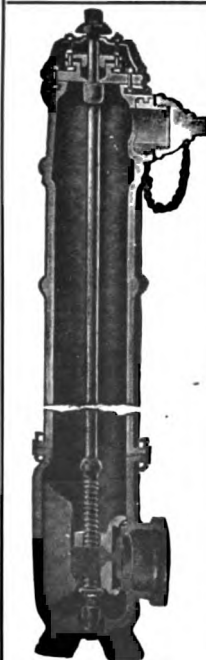
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**Pipe Hydrants, Valves,
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FIRE HYDRANTS

**Frost-Proof
Simple-Efficient**

All parts removable without digging up hydrant. Special device prevents street from being flooded should stand pipe be broken. Minimum expense to install and maintain.



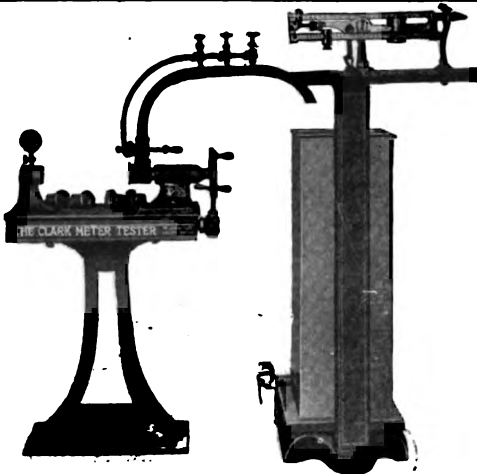
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GATE VALVES

FOR
**Water, Steam
Gas, Oil, Hydraulic
or Electric Operated**
All styles, any size, all pressures

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**Ludlow Valve Mfg. Co.
TROY, N. Y.**

Branch Offices
New York Chicago Boston
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STANDARD
Meets Requirements of Every State Public Utility Commission
Furnished regularly in nine (9) Models. **\$38**
and as low as

Bulletin M5
H. W. CLARK CO.
*Manufacturers of
Everything for the Water Works*
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STOP WHOLESALE LOSSES!
**USE THE HERSEY DETECTOR METER
ON FIRE SERVICES**

THIS METER HAS BEEN ACCEPTED WITHOUT RESTRICTION
BY INSURANCE COMPANIES AND WATER WORKS
IN MORE THAN 500 CITIES AND TOWNS
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FOR USE ON OVER 3,000 FIRE SERVICES
PROTECTING NEARLY \$2,000,000,000 WORTH OF PROPERTY
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ALL KINDS OF METERS FOR ALL KINDS OF SERVICES

**The IOWA
Fire Hydrant**
(The Latest Corey Type)

Newest and most improved design
of fire hydrant. Write for circular.

Also manufacture Gate Valves,
Valve Boxes

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Sole Eastern Agents, Iowa Valve Co.
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The Best Material for CALKING
Joints in Cast Iron Pipes is

Ulco Lead Wool

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SLUICE GATES, CHECK VALVES, AIR VALVES, INDICATOR POSTS, ETC.

GATE VALVES EDDY FIRE HYDRANTS

Hydraulically and Electrically Operated Valves and Sluice Gates. Valves Designed For All Kinds of Service.

EDDY VALVE COMPANY, WATERFORD, N. Y.

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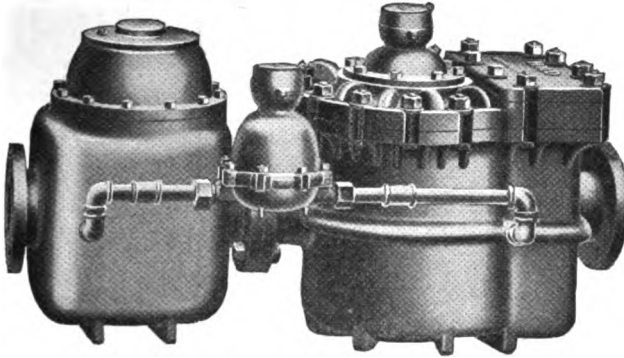
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Re-filtration Systems for Natatoriums **NORWOOD ENGINEERING COMPANY**
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THE NILO COMPOUND METER

Meets the demands of water works officials—

**A Combination Meter for measuring
both large and small flows correctly**



The Nilo Compound meter is a combination of the Nilo meter, a high-duty meter of acknowledged accuracy, durability and capacity and the King Disk meter which is unexcelled in accuracy on all flows within its capacity, together with an automatic double differential vertical valve, guided and united by a central stem.

Detailed description of meters for all services and conditions on request.

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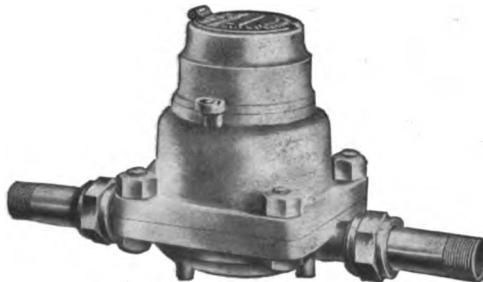
Incorporated 1888

Makers of Worcester Steam Gongs, Water Pressure Regulators, Water Works Fittings

AMERICAN AND NEW NIAGARA WATER METERS

Their Construction:

- 2. Dirt and Sand Proof
Submerged Bearings
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- Only Seven Submerged
Working Parts
- Self-Cleaning and
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- All Bronze Casings
Part Bronze Casings,
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BUFFALO METER CO.

Established 1892

290 Terrace, Buffalo, N. Y.

THE AMERICAN CITY





Take a Good Look at the Trident Family over there.



They are a happy, harmonious family—all working together in the interest of one worth-while cause—the efficient measuring of water.

Each individual of the group has his own special mission in the water supply world. And as the members of this family are extensive travellers the family gossip is very interesting. So interesting in fact that we are careful to note it down and publish some of it as a little monthly magazine called "The Trident." If you're interested in water supply, let us have your address so we can send you a free copy of this interesting record of the family doings.

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90 WEST STREET NEW YORK
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Spend \$45 Once— and Stop Losing \$450 Yearly

Do you realize that a water meter, like a watch or a clock, needs a certain amount of attention lest it lose its efficiency as a measuring machine?

In a circular which we have prepared, "The Latest Ford Story," we tell how, by the use of

The Baby Ford Meter Testing Machine

costing \$45, a water department with 500 meters in service may save \$450 a year, and departments with a greater number of meters may make still larger yearly savings.

The Baby Ford inspects one meter at a time, and tells in a moment whether or not it is doing its work properly.

This tester possesses all the high-grade workmanship and material which goes to make up other Ford products. Write us mentioning the American City and let us send you "The Latest Ford Story," it will interest you.

Ford Meter Box Co.

Wabash, Ind.



The Ideal Roadway Box

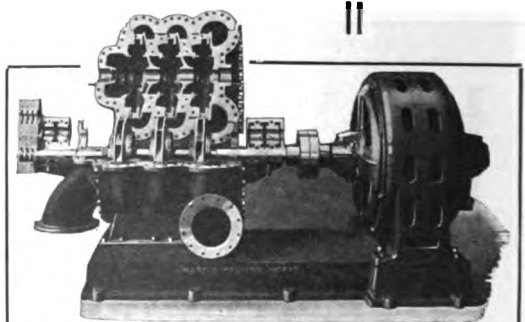
It is easily and quickly installed. Can be used in conjunction with or without brick or concrete underpinning.

By its sectional construction and adjustable top it is adaptable to any change in the street grade without the trouble and expense of digging up the street and resetting.

Write for descriptive matter and prices.

S. E. T. Valve and Hydrant Company

Hudson Terminal Bldg.
50 CHURCH ST., NEW YORK



Morris couples brains with experience

It takes brains to build pumps. It also takes long experience in using your brains to build the right kind of pumps.

Ever since the Civil War, way back in 1864, we have been constructing pumps for all kinds of work. You can safely put your pumping problems up to us. We can solve them.

Write for our 126-page catalogue. You may find some suggestions in it worth while learning.

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New York Office: 39 Cortlandt Street

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Charlotte, N. C.





"WATCH DOG" WATER METERS

Interchangeability

Low Maintenance Cost

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More than 100,000 sold during last six years. Their introduction to the trade marked an epoch in water meter manufacture.

Descriptive literature is yours for the asking. Write us.

GAMON METER COMPANY

282-296 South Street,

Newark, New Jersey

The Detector



is an absolutely reliable instrument for locating lost Gate Valves and Service Boxes.

Hundreds in Use

If it does not prove as represented, can be returned.

Write for our catalogue.

WATER WORKS EQUIPMENT CO.

50 Church Street, New York



"The Controlling Altitude Valves"

maintain a uniform stage of water in standpipes, reservoirs or tanks.

'No Floats, No Fixtures'

No overflow in case of fire pressure. Valves closed by water or electricity.

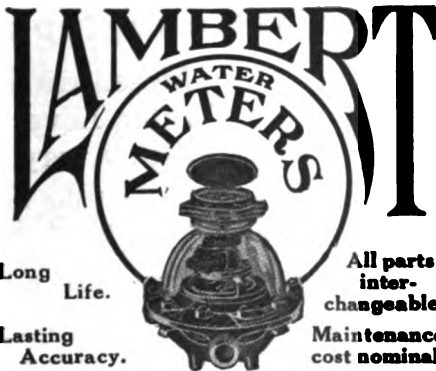
"FLOAT VALVES"

"REDUCING VALVES"

AUTOMATIC VALVES
For Steam and Water Service.

GOLDEN-ANDERSON VALVE SPECIALTY CO.
Office: 1230 Fulton Bldg., PITTSBURGH, PA.

"Let those now love who've never loved before,
And those who always loved now love the more."



Long Life.

Lasting Accuracy.

All parts interchangeable.

Maintenance cost nominal.

Their merits have made meter systems popular. A good article is always worth the price. All improvements which the tests of time and long service show to be requisite in a Perfect Water Meter are embodied in the Lambert.

ONE MODEL ONLY

Made in all sizes, $\frac{1}{2}$ " to 6", of best bronze Composition throughout, fitted with Unbreakable reinforced disc-pistons.

Illustrated Price List on Application. Address Dept. C.

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100-110 BRIDGE ST., BROOKLYN, N. Y.



**Sluice, Head and Penstock Gates
Flap and Shear Valves**

The kind that don't wear out

COLDWELL, WILCOX COMPANY

Water Street

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We manufacture

High Test—Quick Settling CHLORIDE OF LIME

For Water Purification

HOOKER ELECTROCHEMICAL CO.

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Plant: Niagara Falls, N. Y.

TRADE **"LEADITE"** MARK
Registered U. S. Patent Office

FOR JOINTING CAST- IRON WATER MAINS

NO CAULKING REQUIRED

Melted and poured same as lead.
No large bell-holes to dig.
Trench pumping cost reduced to minimum.

1 lb. Leadite is equivalent to 4 lbs. lead.
Saves 50% to 65%.

Joints effective from yarn to face of bell.
Resists electrolysis and withstands vibration.

Big saving when going thru rock or bad ground.

Allows work to progress rapidly.

Saves time, money and labor.

Makes work easy on the men.

The up-to-date joint for bell and spigot pipe.

Used by water works all over the country.

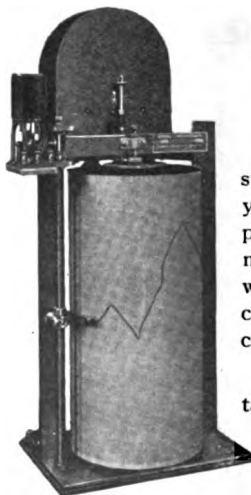
Write for price and full information.

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THE LEADITE COMPANY
100 S. BROAD ST., PHILADELPHIA, PA.

The Long Distance Hydro Chronograph

Measures Water Level Miles Away



This particular instrument placed in your office or power plant from one to five miles away from your water supply will record water levels accurately.

Let us give you details about it.

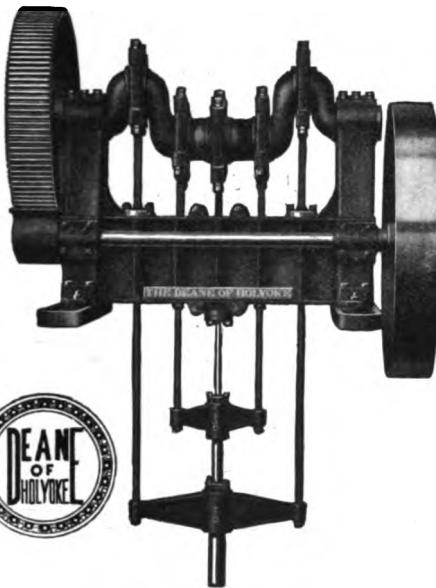
**A Chronograph
for Any Condition**

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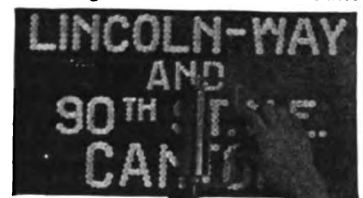
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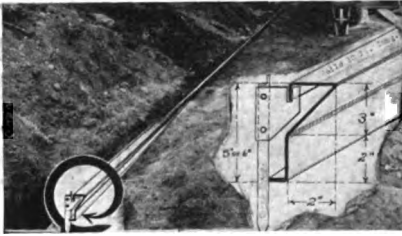
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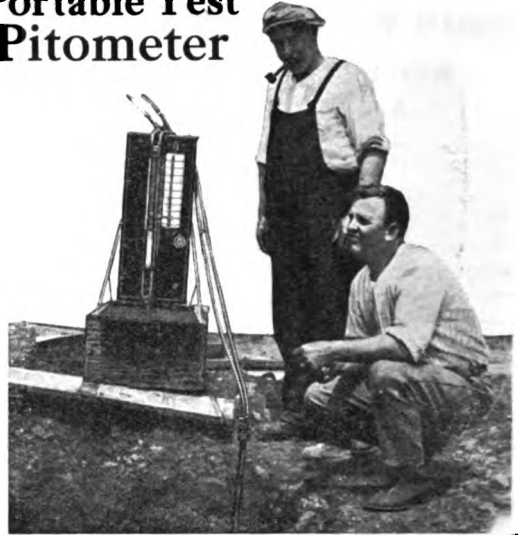


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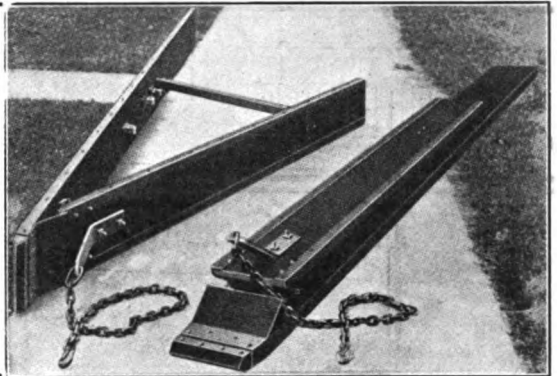
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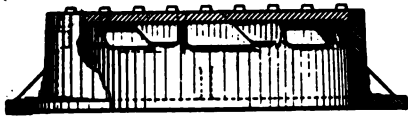
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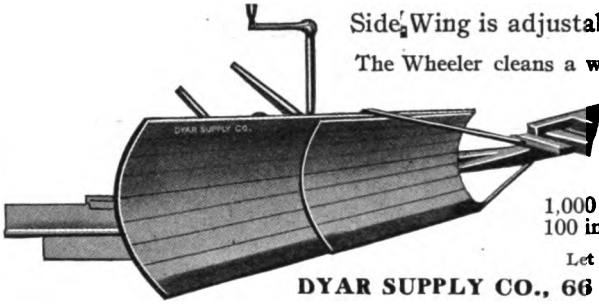
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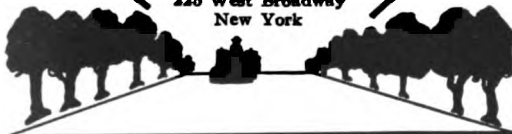
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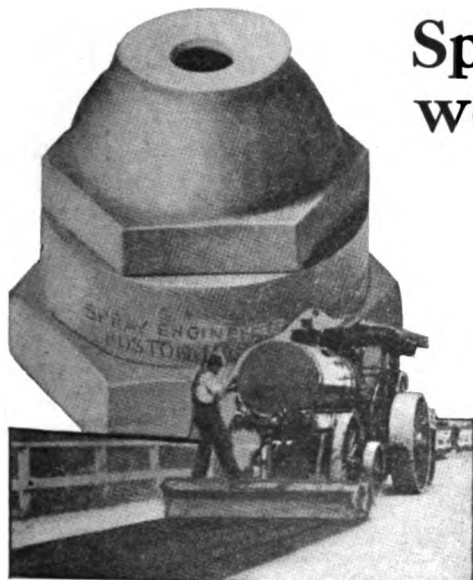
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One city becomes noted for its durable pavements, and officials from other places begin to consider the adoption of the same paving system

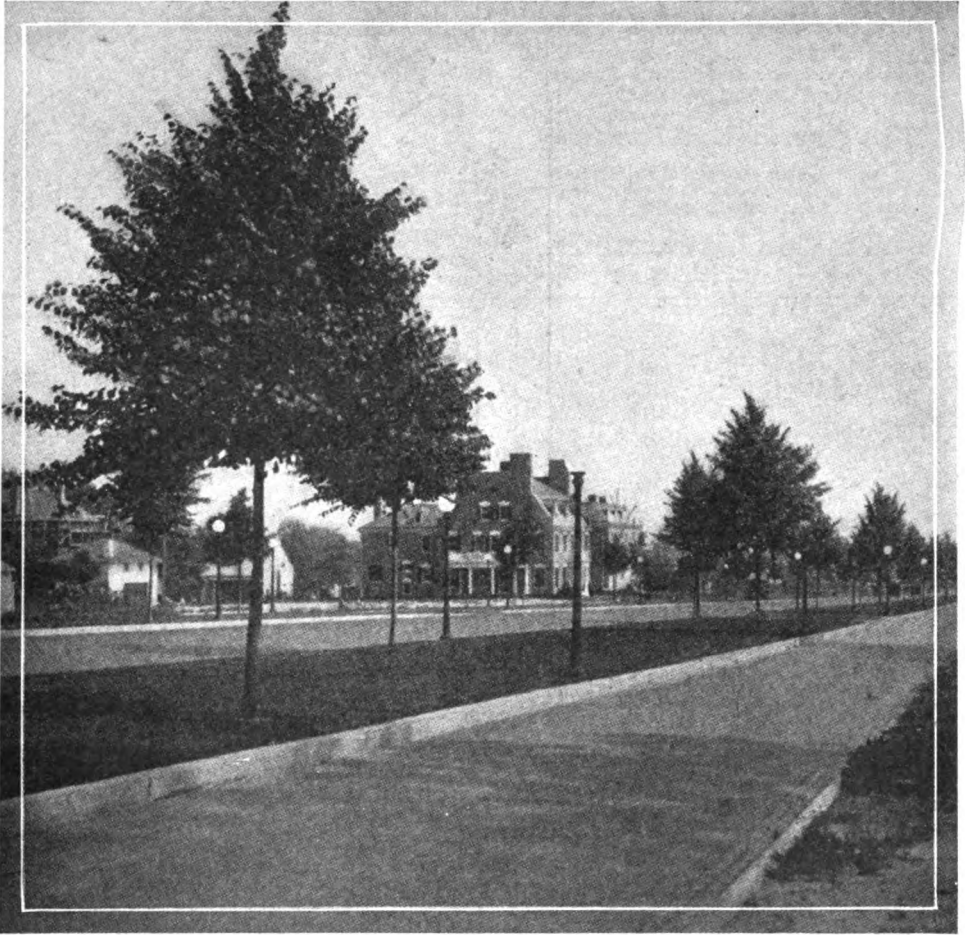
The advertising which one town obtains by installing ornamental lighting for its streets, brings several others in line for the same improvement.

THE AMERICAN CITY is considered by many to be one of the most important factors in the field of municipal improvements on account of its active mission of bringing to the attention of the city, town, and village officials, boards of trade, local improvement organizations, etc., the progress that is being made along important lines in the field of municipal work. Such municipal undertakings as water supply, fire department work, paving and road building, street lighting, parks, sewage and garbage disposal, etc., which are inspired or helped along by THE AMERICAN CITY mean an aggregate expenditure of many millions yearly.

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DEPARTMENT OF PUBLIC IMPROVEMENTS

Office of City Forester

H. K. McCAY, Chief Engineer

R. BROOKE MAXWELL, City Forester

Baltimore, Md., June 17th, 1915.

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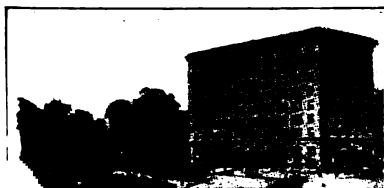
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VOLUME XIII
NUMBER 5

The American City

NEW YORK
NOVEMBER,
1915

Park Utilities

By George Burnap

Landscape Architect of Public Buildings and Grounds, Washington, D. C.

EDITOR'S NOTE.—*This installment is the last of four articles representing typical chapters from Mr. Burnap's new book on "Park Design," now in the publishers' hands, to be issued as the first of four volumes by him on the general subject of Landscape Architecture.*

IF the roof of a man's house continually leaks, of what use is the house to him as a habitation, be it ever so beautiful?

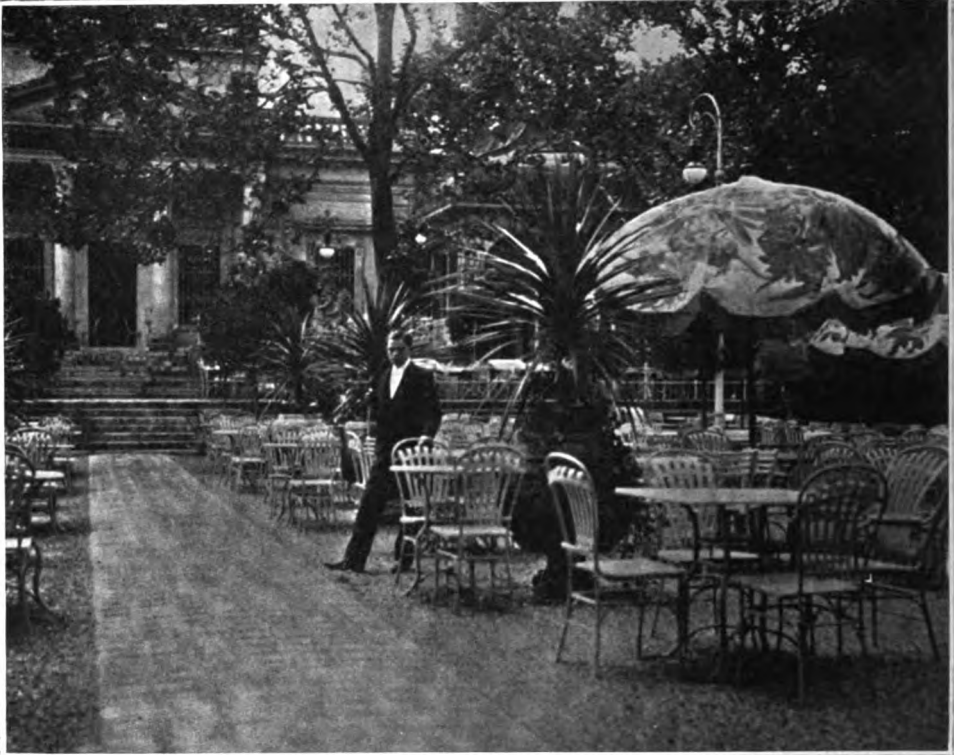
Beauty presupposes utility, as Van Pelt has said. A broom with a richly carved handle is not more valuable as a broom, although it may be more beautiful. It is of less value, on the contrary, if so much attention has been devoted to enriching the handle that none has been paid to the fastening in of the straws, and they consequently fall out. The "silver handle" shaving brush usually moults after about the second application of hot water, and before New Year's the old hard-rubber handle brush is back in service again. Beauty without utility is vain.

In the design of anything, the use to which it is to be put should be of first consideration, and this is especially true in the matter of parks. The average person guilelessly believes that parks are more for ornament than for use, and therefore that the first consideration should be of art rather than utility. The artistic development of a park, however, cannot be stable unless based upon recognition of the fundamental principle of utility. As pointed out in Chapter III, on Principles, strength of park design is always dependent upon utility, and

weak design cannot be concealed by any amount of ornamentation.

A park will depend for enrichment upon the amplification of its faculties—upon the number and character of its appurtenances, rather than upon the elaborateness of its design. Useless elaboration of design will be distinctly annoying, if essayed for that purpose alone. What a park is for must always be the governing thought in its design; and the most certain way of jeopardizing the beautiful in a park is to forego adequate consideration of its requirements.

What are the utilitarian features of a park? The answer will be the Yankee one, "What are the uses of a park?" Parks are provided, not only for recreation of the mind, but to promote health and comfort of the body. The facilities, therefore, which administer to the needs and convenience of visitors may be called the utilities of parks. Seating, provisions for shelter and public comfort, refreshment places, receptacles for the throwing of rubbish, and means of lighting all come under the category of park utilities. None of these can be omitted without inconvenience to visitors and peril to the practical success of the park. Upon the nicety of their design, moreover, will depend the artistic finish of the park.



There should be places of refreshment in all large parks, well established and attractive—not merely peripatetic lunch carts or pop-corn wagons

PARK CAFE, BUDAPEST

Seats and Shelters

The need of seats in parks is obvious; it is expected that they shall be provided, and it is presupposed that they shall be substantial and reasonably good-looking. Their appearance and the manner of their placing have usually been a discredit to parks, a matter which is considered of sufficient importance to justify the presentation of the previous chapter on the subject.

Provisions for shelter are an indispensable adjunct to parks, especially so in those of such extent that considerable time is required to reach the exits in the sudden advent of showers or inclement weather. Such provisions for shelter may take a variety of forms, but simple designs in rough-hewn timber or field stone are preferable to exotic palmetto shacks or pagodas. Whether shelters are provided for shade or to furnish protection from sudden change in weather, the park designer need not fear the inclusion of too many in a park, pro-

vided they are not so uniform in design as to appear monotonous, or so within sight of one another as to appear crowded. The matter of their location will be governed by conditions, and is so controlled by the general design that no independent direction may be given for their placing.

Places of Refreshment

One of the well-developed facilities of European park design which should by all means be introduced in this country is that of places of refreshment. The great open-air cafés and eating pavilions of foreign parks, such as those of the Pincian Gardens at Rome, the Bois de Boulogne, in Paris, the Tier-garten, at Berlin, and the Stadt-garten, of Vienna, are always favorite haunts of Americans abroad. It is too soon to hope that such fine establishments may be made a part of American parks, but smaller places of refreshment are possible of immediate realization. In American



The milk booths in European parks are quaint and picturesque, and serve to far more healthful purpose than do the American soda fountains

LATTERIA, PUBLIC GARDEN. MILAN
MILCH HAUS, BUERGERWIESE PARK, DRESDEN

parks, soda water and indigestible notions must be accepted in substitute for wholesome edibles by those who may have neglected to bring lunches or had not intended to remain for any considerable length of time. It would be very desirable if wholesome refreshments could be obtained in several different places within a park and at a reasonable price.

One of the fine features of European parks in this respect are the booths where milk may be obtained with some simple form of cracker or small cakes. They are of inestimable value, not only to the children, but to the grown-ups; and a drink of warm or cold milk, as individual taste may prefer, is a splendid substitute for the sweet soda drinks of this country. In the Public Garden at Milan the Latteria has been made an especial feature of interest by being designed as a model dairy on a small scale; one may look over the serving counter directly to where the cows are being

milked, and everything is kept in such a state of spick-and-spanness that one drinks cool milk there on a hot day as though it were a special nectar. The walks of the park are led by the open windows of the cow stanchions and serve as a never-ending source of excitement and interest to the great numbers of small children always congregated there. Similar milk houses, though on smaller scale, are to be found throughout the parks of Germany and Austria, and the fact that a generous glass of milk may be obtained for two cents, only twice the price of obtaining a sanitary cup in this country, means that this park luxury is within the means of all. There is no real reason why this feature should not be introduced in every American park, and the only reason appearing at present to prevent it is the lack of some park official with courage to take the initiative. In the New York City parks there are five milk stations, operated by the Nathan Straus Pas-



A bubble fountain in terra cotta converted from a sun dial pedestal. Few manufacturers are yet offering drinking fountains of this type in material of decorative outdoor character

LOGAN PARK, WASHINGTON, D. C.

teurized Milk Laboratory, a private philanthropic venture, at which milk is sold at one cent a glass, but the writer knows of no American park board which has yet given such a project recognition or support.

Comfort Stations

Of the greatest importance in the matter of park facilities is that of the public comfort station. This is a park need that can be neglected only with grave peril. There have been two conditions in the past which have conduced to its omission in park design: first, the old question of false modesty, which is outraged at having conveniences of this sort provided in parks; and, secondly, the inadequate attention which has been paid by park designers to the location and appearance of these necessary buildings.

It is not a matter for argument that such buildings are a public necessity, and that parks are often the only available and the most serviceable place where they may be

located. It is unreasonable to expect hotels and department stores to provide such conveniences for the public, and dependence upon them often incurs embarrassing situations for the individual. In this country it is demanded that comfort stations be built underground, an expensive proceeding and beyond the means of many municipalities. The inability to make such disposition of the problem has in many cases resulted in dodging the issue by leaving matters in statu quo, which usually means either inadequate provision or unsightly and often unsanitary conditions. Even in a park of small area, it is possible to provide a public comfort building that shall be in every respect inoffensive, and may be made extremely decorative, contributing even to the park beauty. It is a matter of design. The very effective treatment of the entrances to the underground stations in the park at the Public Library in New York City, well studied and choice in design, has been contrasted with the miserable struc-



Vines are one expedient to bring light standards into park character

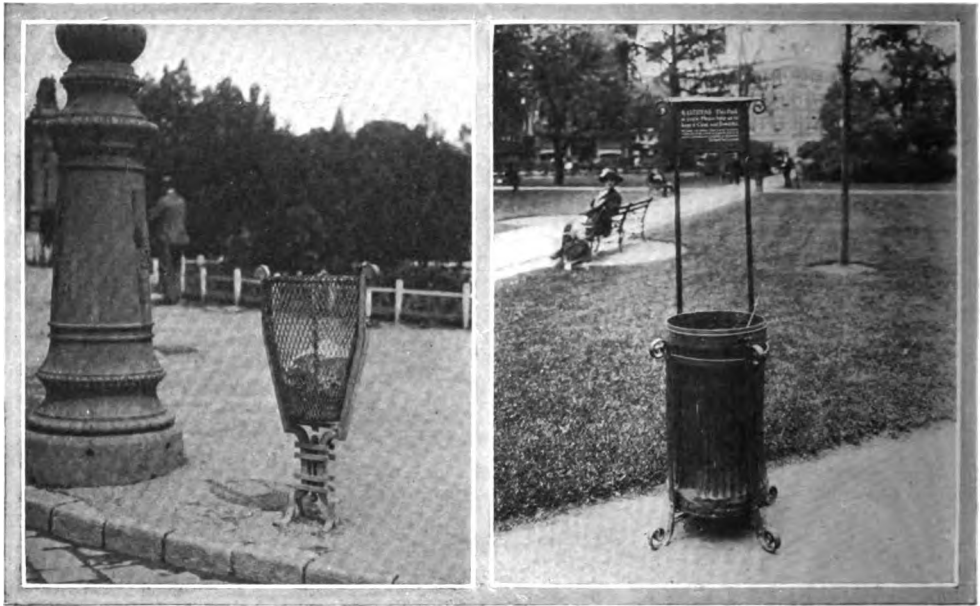
KOENIG ALBERT PARK, LEIPSIK
POTOMAC PARK, WASHINGTON, D. C.

tures in Madison and Union Squares and used to substantiate the argument for underground stations. The contrast is striking, but is more applicable in the sense that the former is an example of good architecture correctly placed, while the latter would be condemned both for wretchedness of architecture and for incorrectness of location.

In regard to the locating of comfort stations, they should always be kept away from the center of the park. To a person looking within a park, all objects within the range of his vision will come in for a share of his attention; and any building, no matter for what purpose erected, will attract some of his interest. In that respect a comfort station located well within the park area becomes an object of interest, for there may be both agreeable and disagreeable objects of interest. As a general rule to be observed, no building in a park should be located where it will command attention as a foreign element; for while it is not the purpose of park design to create any illu-

sion of naturalistic landscape transplanted to urban site, it is within the province of park design to render park scenery as naturalistic as possible in agreeable contrast with the usual architectural scene. It is, therefore, desirable to place such building where it will escape the attention of a person looking within the park. This necessarily means either at his elbow, as it were, or at the far side of the park from which he may be entering. In other words, public comfort stations should be placed on the outskirts of parks, and in that location will rarely be found to appear conspicuous or obtrusive.

In design, they should be made to assume a character which will compose with the general framing of the park, and, as pointed out in the chapter on Architecture in Parks, their architectural style and material should be influenced both by the character of the park and by the architecture of the encircling streets. It is always desirable that such a building be kept low, subdued in color and restrained in design. It is not necessary or



There may be an expression of design even in receptacles for waste paper and refuse

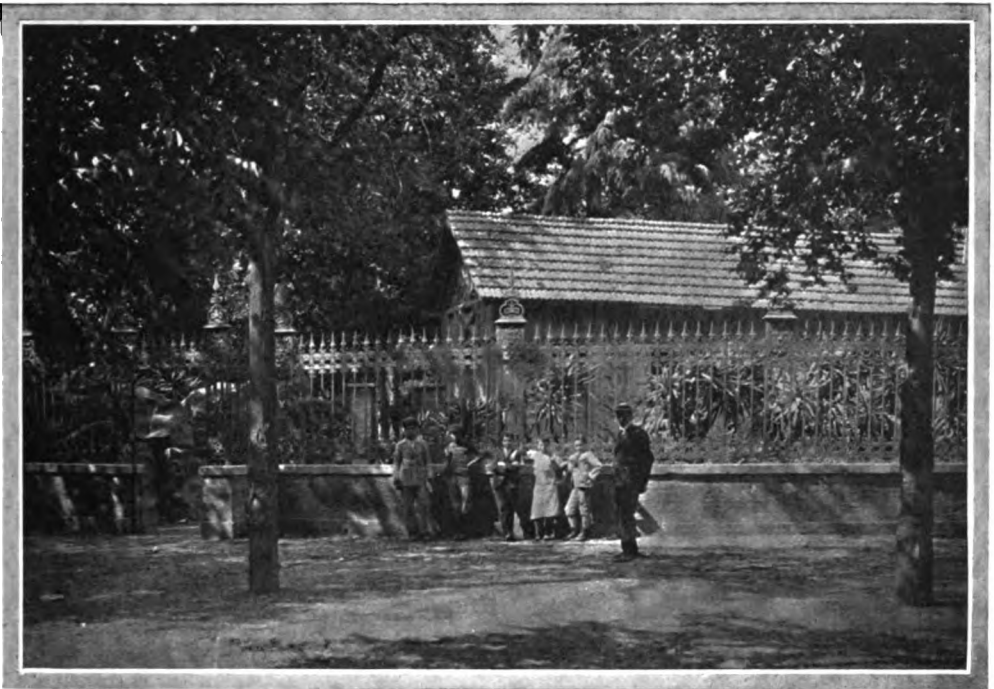
THE VAROSLIGET, BUDAPEST
MILITARY PARK, NEWARK, N. J.

desirable that it be heavily screened with planting. Often the most certain way to attract attention is to attempt concealment. Rather let the building frankly express its purpose, with no attempt at subterfuge. The approaches may be designed in such way as to lead very close to the buildings without announcing it as their sole destination, with minor walks leading to the building by which it will be possible to enter without any cause for embarrassment. Such a building should compose with the planting of the park, rather than attempt to hide behind or within it.

In connection with the planting recommendation that certain parks should be more or less enclosed and protected by mass plantations along the edges of the park, it will be found that the comfort station may be made a part of the framing mass of such park and serve to augment it. In Rome there are two examples of comfort stations thus placed which do not attract attention from one direction or the other. They are designed as part of the street boundary, set back slightly by means of a forecourt, heavily shaded on the park side, though not screened, and appear in no way conspicuous. Such buildings, however, may face

toward the park equally well, as in the case of several comfort stations recently erected in Washington, and will not attract attention, but rather direct attention within the park. If the interior arrangement of a comfort station is properly designed and maintained, the building will not be found to be utilized only by prowlers, as has been asserted. The new comfort stations in the Washington parks are constantly being made use of by the general public.

In European cities the comfort stations are sometimes designed and supplemented with newspaper stands or open stalls for the sale of cigars, post-cards and souvenirs. It has been suggested for this country that, if, in addition to the ordinary service, there were provided telephones, city directories, and facilities for checking bundles, etc., the buildings would prove less objectionable. This appears, however, to be merely a subterfuge and evasion of the problem, and while it might be desirable to add such a service to comfort stations, such additions should be made in response to a demand for them, rather than for the purpose of making a comfort station appear in the guise of something else. In the Washington stations, locker rooms have been provided



Comfort stations are best located to compose with the general framing of the park. They may be separated from the street by planting or courtyard treatment. From within the park they should appear incidental and decorative

PIAZZA VITTORIO EMANUELE, ROME
LINCOLN PARK, WASHINGTON, D. C.





Comfort stations in Germany are often supplemented with newspaper stands and open stalls for the sale of cigars and souvenirs

FRIEDRICH'S RING, DRESDEN

for the park watchmen and a storage yard added to the rear of the buildings, which have thus increased their usefulness.

Drinking Fountains and Lighting

Drinking fountains in parks should be numerous and of the modern sanitary type. Many appliances are offered to the trade for rendering the old style fountains hygienic. In design and material, park drinking fountains should appear suitable for outdoor use. Cement or unglazed terracotta should be substituted for the white vitrified bubble-fountains which are rapidly gaining place in the parks and appear disturbingly like betrayed bathroom fixtures. A concerted demand from park authorities for outdoor character in the material and design of the modern type of drinking fountains will soon encourage terracotta manufacturers to enter the field for supplying this park accessory.

Lighting, without doubt, is a matter of park necessity. Park lighting should always be ample, though that is not to say it need

be offensively glaring—there is no reason why a park should be lighted as brilliantly as a street, where all shadows must be dispelled to prevent collision of vehicles. A certain sense of dusiness within a park precinct is very desirable of a summer evening, and could well be allowed in as far as may be found compatible with order in the park. The placing of light standards should be determined in general with regard to even distribution of light and at the same time with reference to the lines of the park design. It is obvious that a light should not be so placed as to interfere during the day with view or vista, and thus become a detracting element in the park design. In formal work, in fact, they may be made to serve as very helpful accents of the design, and should be used for this purpose by the park designer much as light standards or other fixtures are used by architects in the composition of their buildings.

It is a foregone conclusion that in a park which is to be developed to the highest artistic standards, appurtenances of the

park should be designed for beauty of individual detail. In the intensive development of parks in foreign cities, even the receptacles for the depositing of waste paper are designed conscientiously, as may be seen in the illustration of the refuse baskets in the parks in Budapest. Light standards, even more, should exhibit intelligent design, pleasing in proportion and line. They should never appear over-ornamented. Through the influence of *THE AMERICAN CITY* much has been accomplished in our cities within the last few years toward the improvement of street lighting fixtures, but the good work has rarely extended to an improvement of park lights.

It will be found that any of the facilities enumerated cannot be omitted without detracting from the success of the park. One need never fear that adequate recognition of the utilitarian requirements will jeopardize the beautiful in park design. The danger lies the other way about. It is predestined that a park well cared for will be beautiful; in most instances it is created with that avowed purpose, and ample attention will always be lavished upon that phase of its development and maintenance. Inadequate attention to the utilitarian features, with lack of consideration for human health, comfort and convenience, will automatically render parks unworthy of the effort expended in their acquisition—"bubbles bought with a whole soul's tasking."

Resurfacing Old Water-Bound Macadam Streets With Sheet Asphalt

By John V. Sprague

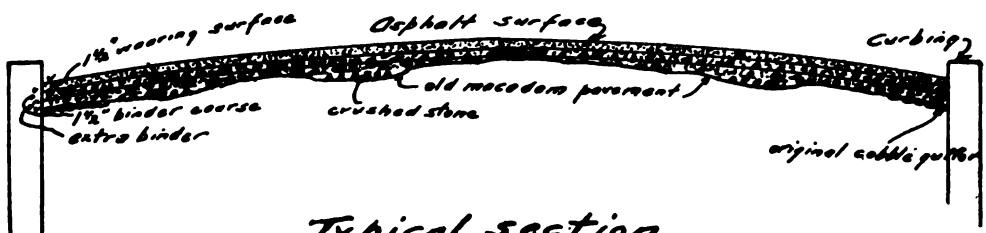
Paving Engineer, New Haven, Conn.

THE demand for the repairing of worn-out water-bound macadam streets with a type of pavement which would withstand motor as well as horse-drawn traffic and still come within the cost of the ordinary bituminous macadam pavement, is a problem which the city of New Haven has had to face and which we are working out at the present time.

During the season of 1913 it was decided, as an experiment, to resurface High Street, an old water-bound macadam street, with sheet asphalt, and to use it as a criterion for future resurfacing with this type of pavement. This pavement of 5,000 square yards has stood up so well for the past two

years, under severe conditions of climate and traffic, that it is considered nearly as good as the same type of pavement on a concrete base laid the same year.

The contract called for the street to be scarified, gutters thoroughly cleaned, and wherever necessary blue-stone headers to be put in on the street line of intersecting streets. All manholes were raised 3 inches above the average contour of the street. In approaching a catch basin, the macadam for a distance of from 3 to 5 feet out from the sides as well as from the front of the pan was removed to a depth of 3 inches. In some instances it was necessary to take out the macadam to a greater depth, fill in with



*Typical section.
Showing old and new pavement.*

crushed stone and then thoroughly tamp until the proper sub-grade was attained. This method was also pursued with regard to crosswalks wherever they were too high above the general crown of the street. All cobble gutters were left in place, excepting where they conflicted with grades established for new gutters. In such instances they were treated in a manner similar to the crosswalks.

All depressions not over $2\frac{1}{2}$ inches in depth below the average contour of the street were filled in with binder, and wherever the depressions exceeded $2\frac{1}{2}$ inches they were filled in with crushed stone to the required grade and thoroughly rolled.

The gutters were determined by averaging the center line of the street, adding 3 inches (the thickness of the pavement at that point) and then figuring a cross pitch for one-half the width of the street at the rate of $\frac{3}{8}$ inch per foot. In some cases this cross pitch was exceeded and in some it was not quite so much, but it served to give the finished pavement a very good crown.

The resurfacing proper called for $1\frac{1}{2}$ -inch binder course and $1\frac{1}{2}$ -inch wearing surface. The extra binder required to fill the depressions was paid for by the ton. This extra tonnage was determined by multiplying the yardage of the street when finished by 135 pounds per square yard (using 90 pounds per square yard for 1-inch thickness of close binder) and subtracting this amount from the total tonnage of binder turned out at the plant. The wearing surface is composed of a mixture of local sand, Portland cement filler and asphalt, with a penetration of 55 at 77° F., under 100 grams for 5 seconds.

The work was done by the Union Paving Company, of Schenectady, N. Y., for \$1.09 per square yard for the pavement proper and \$6.50 a ton for the extra binder. This season the city has let contracts to the amount of 50,000 square yards for this type of pavement, and is contemplating more yardage later on. The prices for the pavement laid this year are considerably lower than for 1913, and for two lettings are as follows: Union Paving Company, 82 cents per square yard for pavement, \$5.40 per ton for extra binder; C. W. Blakeslee & Son, 72 cents per square yard for pavement, \$4.75 per ton for extra binder. The contracts will run about 25,000 square yards each. The increased cost per square yard of pavement, above the bid price per square yard, due to extra binder and stone, averaged about 14 cents.

Another experiment is being attempted this season with dirt streets. We have taken Christopher Street, a street of very light traffic, and subgraded it to a depth of 6 inches. On this was placed 3 inches of crushed stone, and after thoroughly rolling it, a 3-inch surface of asphalt was applied. At present it is impossible to express an opinion as to what might be expected of this pavement.

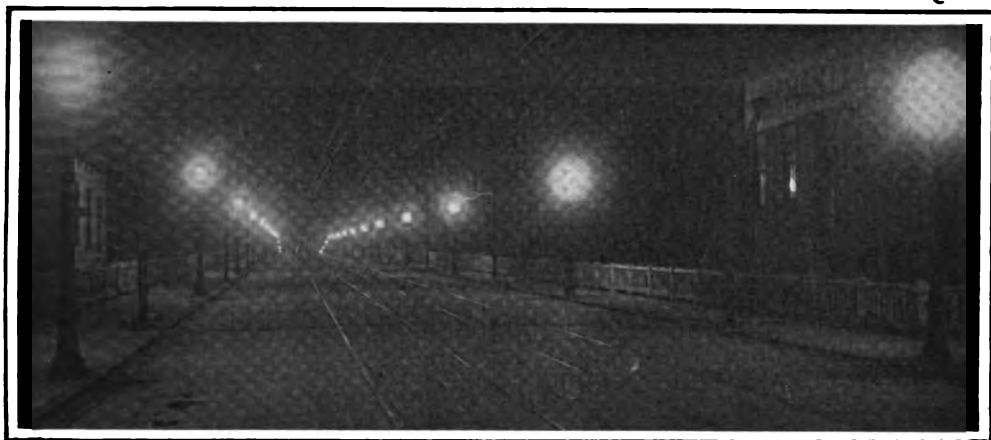
This type of pavement for resurfacing old water-bound macadam streets is without a doubt one of the best, considering the initial cost and the guarantee of five years for the life of the pavement under which the contract is let. This method of resurfacing old water-bound macadam streets, instead of laying the asphalt on a 6-inch concrete base, has meant a saving to the city of from \$25,000 to \$30,000.

Lighting a Viaduct

The Ludlow Avenue viaduct in Cincinnati, recently completed, was constructed to eliminate the grade crossing of the railroad at that point. With its approaches, it measures 1,800 feet, an unusual length for such a structure. Not only because of this length, but also because all the electrical connections were made and the standards installed after the viaduct proper was completed, is the lighting of this thoroughfare of especial interest.

The type of lighting to be used was not adopted in time to allow of its installation while the viaduct, which is of concrete, was being built, and special provision had to be made for doing the electrical work later. In consequence, the work proceeded somewhat more slowly and with a little more expense than would otherwise have been the case, but it was carried out without difficulty.

The cast-iron lamp standards weigh about

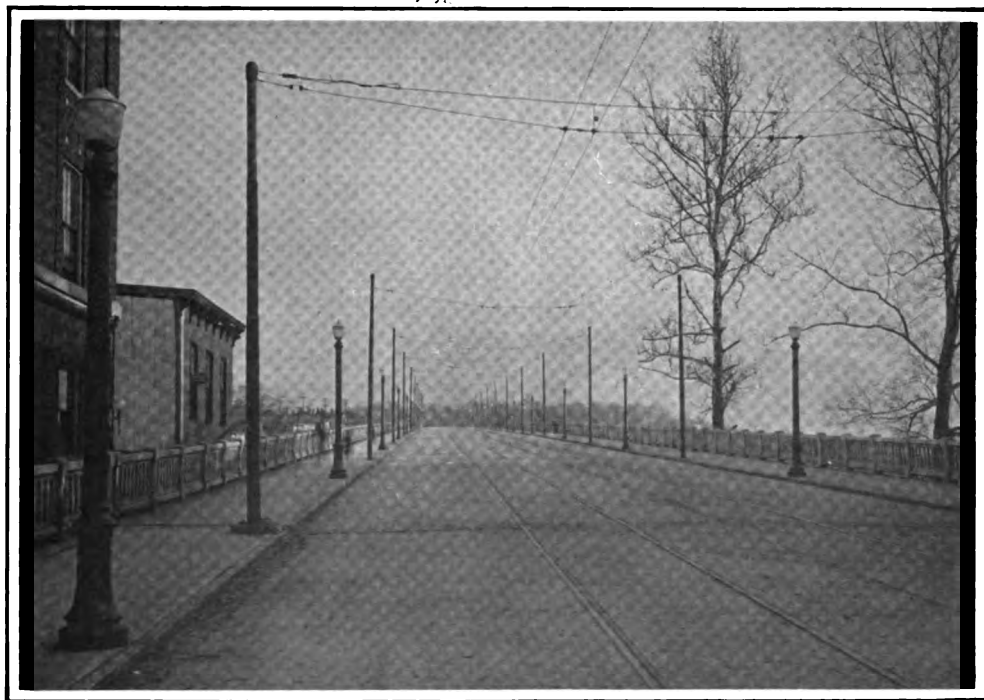


NIGHT VIEW OF THE LUDLOW AVENUE VIADUCT, CINCINNATI

600 pounds each. Each carries a single 500-watt type C Mazda lamp in a Holophane globe. These standards, as well as the three-section tubular steel trolley poles for supporting the span wires, were furnished by the Electric Railway Equipment Company, of Cincinnati. There are 36

lamps on the viaduct, placed opposite each other on the two sides, at intervals of a little less than 100 feet, and the illumination is very satisfactory for the 60-foot width and the spacing. The wires are run to the viaduct in 4-inch lead-covered conduits embedded in concrete.

9 23



THE LIGHTING STANDARDS ON THE NEW VIADUCT

The Municipal Rest Houses of Pasadena

By William Robert Marshall

ABOUT six years ago the women of the Shakespeare Club of Pasadena, Cal., rented some rooms in a business block located in the center of the city and furnished them as rest rooms for girls and women who were employed down-town all day. With the success of their undertaking they were able to demonstrate to the city officials the need of providing such a building for use by the general public, and the present buildings are the direct result of their labors.

About two years ago the city built two rest houses in different parks. The one in Library Park is situated at the entrance, among the palms and flowers under the shadow of Mount Wilson, just one block from the center of the shopping and business district. It is an ideal spot for the site. Here the women and children are afforded a clean and sanitary place free of all cost and easy of access.

This is a six-room building of the California type of architecture; the exterior is hard cement plaster and the interior is finished in a soft light apple-green. The main or public rest room is 16 feet wide by 29 feet long, and is comfortably furnished with easy rocking chairs, book-cases and reading table; in one corner is the matron's desk. The private rest room—private only inasmuch as perfect quiet is concerned—is 14 feet 6 inches wide by 22 feet 6 inches long, and is furnished with five couches, each couch with a separate screen. Here the women can rest as long as they desire; those desiring to take a nap can leave instructions with the matron to be called at any hour. The retiring room is 14 feet long by 5 feet 6 inches wide, and contains four toilets and three lavatories. Free soap and towels are provided. A private dressing room not yet furnished is used as a store room.

On the second floor the main room, 25 feet 6 inches long by 15 feet wide, is furnished as a dining-room. The kitchen is 7 feet wide by 9 feet 6 inches long and is

equipped with a gas range, sink, cupboards and dishes. Here the girls can make tea and cook or warm any edibles they may desire.

That the public have appreciated the conveniences offered them is shown by the fact that the monthly attendance is approximately 4,000; of this total 3,000 are classed as visitors and the remainder of 1,000 as girls and women who are regular attendants, spending their lunch hour there every day.

The rest house in Central Park, being farther from the business center, has not proved so attractive, and the city has turned it over to the Society of the Associated Charities, who keep it open to the general public. For the use of the building as its headquarters the Society pays all the cost of maintenance.

The entire cost of maintenance of the two rest houses for last year was as follows:

Salary matron, Library Park.....	\$360.00
Salary janitor	480.30
Electric light and gas.....	56.74
Furnishings and repairs	218.99
Laundry	66.65
Water	30.20
Salary matron, Central Park.....	240.00
Electric light and gas.....	67.78
Furnishings and supplies.....	43.74
Laundry	13.60
Total.....	\$1,527.90

From this table it is seen that at a yearly expense of \$1,162.78, 48,000 women and children are given the comforts of the rest house in Library Park. This is about the same cost to the city as that of keeping one watchman at the Busch Gardens, who receives \$1,250 per year.

The rest house in Central Park is not so large as the one in Library Park and has no dining-room or kitchen, but it has a large public rest room and a commodious toilet room, which is open to the public as an accommodation for women and children. No record has been kept of the number of visitors to this rest house, but the number has been sufficient to warrant all the money expended for it. The entire expense of maintaining it last year, under municipal management, was only \$365.12.



THE PASADENA REST HOUSE IN LIBRARY PARK



PUBLIC ROOM IN THE LIBRARY PARK REST HOUSE

"Routing" a Money-Raising Campaign

By Lannes McPhetridge

Indianapolis

SEEMINGLY innumerable details confront the committees or promoters of community civic and philanthropic movements, especially where the raising of money by public subscriptions is one of the ends sought. It is one thing to enlist volunteers who have the personality and enthusiasm to assume the rôles of canvassers for funds, and it is another thing to map out the work of two or three hundred of these workers (1) so that the personal convenience of each individual may be met, (2) so that there will be little confusion in their work, (3) so that one prospective giver to a fund will not be approached by a half-dozen or so canvassers, and (4) so that each canvasser will cover the minimum of ground with the minimum of effort, and at the same time will not be crossing the trail, or the same ground, of some other canvasser.

In a force of 100 to 300 men who are willing to serve in a cause by asking for public subscriptions for it, a portion of the canvassers can work only during the noon hour and in the evening. Others can slip away from business two or three hours in the afternoon if they can call on prospective subscribers in the wholesale or retail district, in a factory neighborhood, or in two or three designated office buildings. Men who can canvass for subscriptions only in the evening near their own home; others who prefer to seek subscriptions in neighborhoods other than the one in which they live; still others who shrink from this kind of civic work in the vicinity of their church; some who have not the courage to approach their friends for money for a civic cause, and another kind who have not the courage to ask strangers for contributions—all these varieties and more will be found in a large force of workers who are about to start out in a money-raising campaign.

And the promoters of the civic movement are expected to meet the individual desires and conditions which arise, give a canvasser the list of prospective subscribers he desires, living within a district most convenient for him in time and distance. More than one committee in general charge of

such a financial campaign has had its wit and wisdom tested in the effort to rise to the occasion.

But, after all, it is comparatively easy. One of the old, yet faulty methods has been to write on single cards the names and addresses of prospective subscribers, take these cards to the city distributor of mail at the post office, and ask him to "route" the cards as mail is routed for a force of carriers going forth from the post office to deliver letters to the public. But the postman's route is usually long and in daylight hours, and in other ways inconvenient to a business man who becomes a volunteer seeker of public subscriptions. Another old method is to hold a mass meeting of these canvassers, read the names on the cards, each canvasser selecting those that "look good" to him. But this requires hours of time if there are a thousand or more cards to be so distributed. Still another plan is to write the names of prospective subscribers on long sheets of paper, in alphabetical order, pass the sheets among the canvassers, they checking off with their initials those prospects whom they will ask for money.

Far out of usual sight in the larger stores of every city is an individual who can overcome all the perplexities of "routing" the work of canvassers in a financial campaign. He is the superintendent of delivery of a department store, or any retail store, which operates numerous wagons or motor trucks in delivering packages of merchandise to customers. He knows his city as a spider knows its web, and he can be counted on as eager to show this knowledge and at the same time be of service in a civic cause.

Take 1,000 or 2,000 or 10,000 cards, each bearing a different name and street number, to the head of one of these mercantile delivery systems, ask him to "route" these cards as he would route so many packages for his delivery wagons, and he will accomplish the task with both perfection and dispatch. He will with a colored crayon mark off on a city map the routes by streets and districts, so there will be no duplication of routes for the canvassers, and he will gather the distributed cards, with a rubber band around each, and give each bunch of

1200 B. C. There is a large display of antiques, including china, glass, furniture, Roman, Greek and Italian jewelry and corals.

The Museum and Art Gallery gives two-fold service to the city of Reading: it gives citizens and visitors opportunities for viewing and studying worthy efforts in art and science; and through its medium the public schools of Reading teach the children not only art and science, but geography and history as well. The traveling cases contain exhibits of interest to children of the lower grades in the study of history and geography. These are distributed among the grade schools and serve to bring the classroom into immediate touch with the usefulness of the Museum and Art Gallery.

The Institution's Usefulness

Students in art have here fine opportunities for instruction in design, sculpture, painting and pottery. A yearly visit from every school is made a part of the school curriculum, thus inculcating a greater interest in art and science and increasing the usefulness of the Museum and Art Gallery. A series of lectures is given to the public during the year by educational men, spe-

cialists in art and in the scientific world, and another series is presented by the director or his assistants.

Dr. Mengel is a member of the Pennsylvania Museum and Academy of Arts and Sciences, and he has been recognized by the Smithsonian Institute. His travels have taken him over Europe, Asia, Africa, Central and South America. In 1891 he was appointed entomologist of the Peary Expedition to North Greenland, and in 1896 he was elected instructor of natural sciences in the schools of Reading.

For the Museum and Art Gallery the city owes much to its founder and director, who has worked very hard to make this part of the department of the public schools a success. With the coöperation of some of the great art galleries and museums of the country, the generous support of prominent citizens and the progressive spirit of the Board of School Directors, Dr. Mengel has developed this institution in all directions. It has grown in an unprecedented manner. Many people are becoming regular visitors, and the number of persons taking an active interest in it is constantly increasing.

Militarism and the Public Schools

By Louis Heaton Pink

Member, Board of Education, New York City

“ORGANIZED insanity,” says N. C. Schaeffer, State Superintendent of Education for Pennsylvania, of the insistent demand for military training in the public schools. The term is perhaps too severe, but is there any real need for putting the rifle in the hands of the school boy? The agitation is due in large part to the excitement of the times, to fear rather than well-considered reasoning.

Teaching the schoolboy military tactics is perhaps the easiest way to reach all the men of the nation. But do those who urge it realize that a boy under fourteen cannot be made into a physician, a lawyer, a mechanic, a carpenter, or a soldier? Our pre-vocational training does not make artisans; it merely brings out aptitudes.

Serious preparation for any special line of work must come after fourteen.

Military training in our schools would accustom children to the thought of war; it would encourage some to follow the profession of arms; it would be of physical benefit and would lay stress on order and obedience—soldiers it would not produce. The practical aid to preparedness is mythical. Bodily vigor, courage, discipline and ability to endure physical hardships can be gained in peaceful ways—sports, gymnastics, scouting.

Do we wish to say to our boys and girls each day: “War is a probability; each boy must prepare to go out and kill his fellows?”

The European madness has brought doubt and chaos to the minds of all. But we must not be ruled by our fears. We must not give up faith in humanity. We should train our children to hate war, to be-

lieve it wicked and unnecessary. The greatest good that America can do humanity is to preserve her ideals, practice her beliefs, maintain hope through the engulfing night.

If we must train our citizens to war, let us begin with young men of eighteen or twenty, as do other nations. We are not succeeding too well in educating our youth, and should not add soldiering to the overloaded course of study.

Boston tried military drill in its schools, but the results were negligible. In our colleges it is not producing practical results. The money spent by the nation on military training in the land-grant colleges is mostly wasted. Soldiering is a profession in itself and cannot be taught as a side issue to college education.

Under the Morrill act of 1862 the nation subsidizes colleges which include military training in the course of study, and the President assigns an army officer to teach military tactics. There are now fifty-two land-grant colleges having military training, in addition to numerous military academies.

There are to-day less than 25,000 students receiving military training from the government at the various institutions, and the results are not gratifying to the War Department or the colleges. If military training has not proven successful in our higher institutions of learning it is doomed to abject failure in the common schools.

Even in Switzerland, often cited by advocates of military training for children, military instruction for school boys is voluntary and not a part of regular school work.

Germany, Austria, France and other European nations begin the training of officers in special cadet schools at the age of fourteen to seventeen. But this is spe-

cial training in special schools. Prussia has eight institutions for cadets. Public school children are not trained in military tactics, and compulsory military service does not begin until manhood. The military nations evidently regard the training of school children for the army as wasted energy.

Preparedness, in these days of trench warfare, when weight of artillery decides the battle and manouvers are impossible, consists largely in a well-organized nation, sufficient modern artillery, first-class aeroplane scout service, well-trained and intelligent mechanics, ample output of munitions, effective distribution, sufficient trained officers. The number of men that can drill and go through set exercises counts for little. The common soldier can be whipped into shape in a few months. The making of officers and the organization of special branches of the service require years of professional training. If we must go the way of preparedness, does not the path lead to a national militia and a large number of schools, after the plan of West Point, for the thorough training of officers?

Military authorities tell us that our weakness in wars past has been the lack of trained officers and proper organization of the War Department.

This was the defect of 1812, 1861 and the Spanish War. In the Revolution it was the lack of officers and equipment that cast doubt over the outcome and prolonged the struggle. Had we trained officers of our own, Lafayette, Steuben, Rochambeau and Kosciusko would not have been so necessary to our triumph.

We do not tolerate politics in the schools. Is militarism less to be feared?

Keep everything out of the public school curriculum but development of character, cultivation of intelligence and ideals, preparation for the peaceful pursuits of life!

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How the Public Library Can Aid the City Hall

By Florence Rising Curtis

Associate, University of Illinois Library School

THE mayor who assumes office for the first time should find two of the city departments especially equipped to give him substantial aid in the successful performance of his duties—the city clerk's office and the public library. In each of the problems which come to him for solution he must know what has been attempted in the past, what is under way at the present, and what is planned for the future. The need for this information, and the equally pressing need to discuss these problems with others who are facing them, have resulted in the annual Mayors' Conferences held in thirty-four of the states, and in the first national conference of American mayors, at Philadelphia in November, 1914. The mayor who attends such meetings is under fire, he is constantly giving his opinion, furnishing statistics, or pleading ignor-

ance. He must know his city, its activities and its needs, and he must learn how other cities are developing along the same lines.

He will find in the clerk's office the city records, the reports and ordinances, and information concerning the departments and their employees. There are the card files which enable a new incumbent of the office to take up his duties without repeating the work which has been done before. There is the mailing list of the cities and the individuals who receive the annual report, and a list of the officials of neighboring municipalities who receive invitations to important meetings and civic celebrations. There is a record of the associations which have held conventions in the city, of available halls for meeting places, transportation facilities, hotel accommodations, and the entertainments which have been provided.



THE BUSINESS BRANCH OF THE FREE PUBLIC LIBRARY, NEWARK, N. J.

These are a part of the working equipment of the clerk's office, and there is generally room for little more, aside from the records of the correspondence and routine of the office.

The public library affords opportunity for the preservation of historical records and the gathering of material on the different phases of the problems under consideration by the city officials. A most important part of this municipal reference library is the collection of maps. They show the natural features of the community, the hills, the valleys, the waterways, which have largely determined the direction of growth, and the transportation lines which make possible continued commercial development. A good map collection is within the means of the small city library, as the United States Government publishes excellent maps at the actual cost of printing, and the publications of various state commissions and departments may be secured free of charge.

A fine map of the United States gives the railroads and canals, the national parks and forest reserves. It is five by seven feet, mounted on muslin and on rollers for hanging, and is sold by the Superintendent of Documents at Washington for \$1. A map of the state will show the relation of the city to other municipalities, the markets for its manufactures, the sources of its imports, and the transportation facilities upon which it must depend. This same office at Washington sells, at 25 cents each, maps of those states which have public lands, including all the states and territories west of the Mississippi. The Post Office Department has issued maps of the several states, which it sells, in most cases, for 80 cents each. These show the principal post offices, the post routes, and the steam and electric railroads. Railroad commissions, road commissions, state and geological surveys publish good maps which may be obtained of them without expense.

Maps of the locality are of especial value, because they cover the district of which the city is the natural trade and distribution center. With a detail map as a basis, other charts may be made by the use of transparent cloth or tracing paper. These should show the improved highways and the area from which farm products are brought to the city and from which people come for trading, banking and recreation facilities.

By the use of colored crayons, the charts may be made to show the homes which belong to the city community because of church or school connections, or through library service. The best local maps are the topographic sheets sold, at 10 cents each, by the U. S. Geological Survey. Each is 16 by 20 inches, covering an area of about 200 square miles; they show cities, towns, farm residences, railroad lines and relief features. This work, begun in 1882, is still under way and the sheets are not yet completed for all sections of the country. The geologic folios for some sections, showing the geology and the mineral deposits, with descriptive text, may be procured from the Survey, usually for 5 cents each. It also publishes special maps of regions economically important—e. g., New York City and its vicinity.

The Post Office Department sells, for 20 cents each, maps of each county in which rural delivery service has been completed, and additional blue prints of the post routes starting from a single post office, for 5 cents each. These give the roads, water courses, churches, schools and the residences along the routes. Those localities which border on the coast are charted by the U. S. Coast and Geodetic Survey, which issues an index map of its charts; the U. S. Mississippi River Commission, with headquarters at St. Louis, issues charts of the Mississippi River region; and the U. S. Lake Survey, at Detroit, has charts of the Great Lakes and the St. Lawrence River. The geological surveys of many of the states have issued maps showing the sources of water supply, the forests and the mineral and stone deposits.

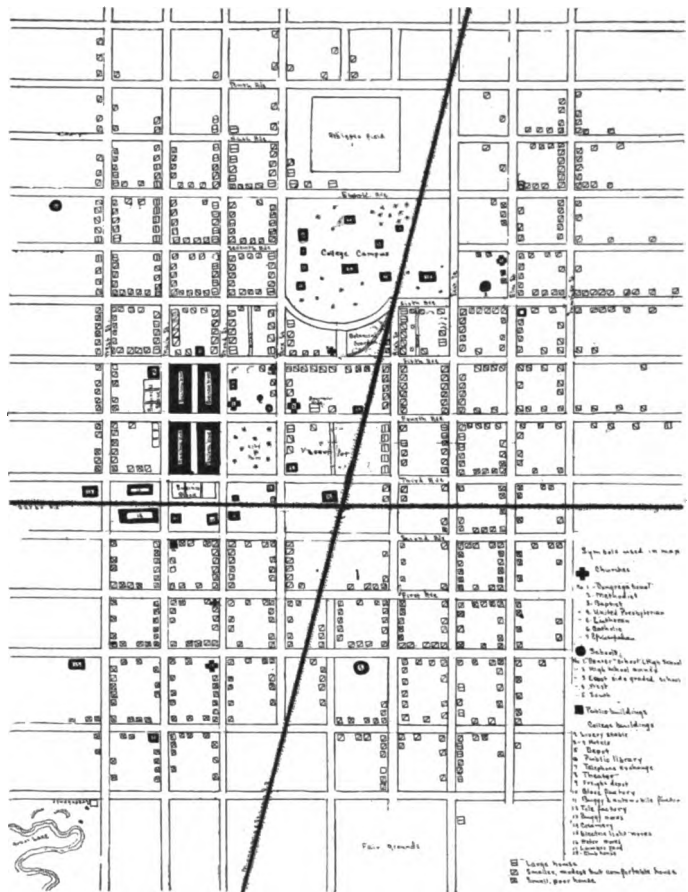
A good city map will usually be found in the city directory, and additional charts may be traced from this, both for the entire city and for sections. The general map will give the natural features and the transportation lines, the ward lines may be added, and the boundaries of the school, fire and police districts, the institutions, churches, schools and libraries. Another map will show, by the use of colored inks, the business houses, hotels, banks and theaters. Simple outline charts give the area of the water service, the gas and electric systems, the paved streets, the concrete or brick sidewalks and the shade trees. A chart of the various nationalities shows the

smaller communities and trade centers within the corporation lines. Section charts of dwellings in poor condition, unimproved streets and alleys, and inadequate water-supply will probably coincide closely with charts of crime centers.

These maps do not call for any special skill or for much time in their preparation; they may be made by some patron of the library who is interested in the subject, or by an employee of the city engineer. The illustration shows one of the maps which were made by students of the University of Illinois Library School. The accompanying table gives a uniform system of symbols which will make the maps more valuable for purposes of comparison. These maps were drawn with writing ink upon ordinary square-ruled or drafting paper.

Next in value to the maps is the collection of city publications, the reports, charters and ordinances, and the periodicals and booklets issued by chambers of commerce and boards of trade. Each library can secure the annual reports and other publications of many cities which are of the same size, or are considering similar problems—a new city charter, or the installation of a sewage disposal plant. A state municipal reference bureau, such as those of Illinois, Indiana and Wisconsin, will furnish additional reports and proceedings which are not in the local collection.

Material descriptive of the city's activities should be available in the public library for the use of the citizens. Much of this is of historical value—newspapers, diaries and letters, anniversary papers and programs, pictures of people and of buildings, streets and parks. In addition to this, there are data in regard to the actual condition



MAP OF A COLLEGE TOWN MADE BY STUDENTS OF THE UNIVERSITY OF ILLINOIS LIBRARY SCHOOL

of the city, its public utilities, the nationalities represented in its population and their standard of living, the educational and religious agencies, and the problem of vice and crime. This is of interest to the city officials, and the time may come when every intelligent citizen shall feel it his duty to inform himself in regard to his city. It is not the mayor, but the average citizen, who is usually consulted by the prospective resident in regard to the advantages of the town.

The chief reason why this civic collection should be in the library, instead of in the clerk's office, is the fact that the library is the city information bureau, planned for the acquisition and use of such reference material. There is room for storage and for convenient consultation, and a consistent policy for its collection and care. The

general reference books of the library will give additional information upon the subjects of civic interest; there are treatises, periodicals, encyclopedias, statistical handbooks, government documents and the transactions of societies. Libraries in adjoining cities, the state library, the state library commission and the state university are generous in lending books which are not in the local library. Municipal home rule, the city manager plan, vocational education, paving materials, public playgrounds—such topics form the programs of the mayors' conferences, and these are subjects upon

which the public library is prepared to offer aid. In the larger cities this special municipal reference collection is either a branch of the public library, housed in or near the city hall, or it is in a special room in the library building. No municipal library is too small to provide timely, accurate and specific information which will be of practical value to the city officials.

EDITOR'S NOTE—An outline suggesting the civic material which should be collected in the city library has been prepared by Miss Curtis under the title, "The Collection of Social Survey Material." It is published and sold by the American Library Association Publishing Board, 78 East Washington Street, Chicago. The price is 10 cents.

City Planning in Edinburgh, Scotland

THE accompanying view of the town-planned portion of Edinburgh is reproduced from *Conservation of Life*, a quarterly bulletin on public health, housing and town planning, issued under the direction of the Commission of Conservation of Canada. The photograph clearly indicates that nothing has been sacrificed in the matter of utility, and that beauty has

the clock tower is the North British Hotel, and the turreted building behind and to the right, on the side of the hill, is the city gaol. In the immediate foreground are the railroad tracks and tunnels under the mound leading to the railroad station.

Edinburgh is the capital of a comparatively poor country with a population of less than 5,000,000; it has no parliament and



WAVERLEY STATION AND ITS APPROACHES, EDINBURGH

been gained as well. The dominant features in the sky-line are towers and monuments—not skyscrapers with chimneys and water tanks on the roofs.

On the mound in the foreground stand the Royal Scottish Academy and Royal Institution. Beyond and to the left is the Gothic Scott monument. The building with

no permanent royal residence to contribute to its public buildings. The new part of the city here illustrated was planned in 1767, and was for the most part built during the nineteenth century. The city is among the lowest rated in Great Britain. It has gained largely in wealth because it has been attractively planned and built.

The Location and Laying of Sewers

By Frederick R. Charles
City Civil Engineer, Richmond, Ind.

WHETHER sewers should be located in streets or alleys is a question admitting of some discussion. The street location involves the disturbance of the front lawn, the parking and the street pavement during the installation of the system and also when accidental obstruction makes it necessary to dig down to the sewer. The sewer is also more exposed to the risk of being filled with the roots of trees planted in the parking between the curb and the sidewalk, which constitutes a real danger in spite of all precautions. On the other hand, the length of connection from house to street will ordinarily be less than from house to alley, although the tendency now is to plat shorter lots, which more nearly equalizes the lengths.

Alleys are usually narrow, affording restricted space for piling the earth excavated during the construction, thus greatly increasing the cost; but less valuable pavement will be destroyed and less obstruction caused than when the sewer is laid in the street. Modern education in cleanliness and sanitation is bringing about the construction of better pavements in alleys, and it would doubtless be an aid to progress in this matter if the alleys were paved before the streets. The alley location serves better for drainage of outbuildings, stables and garages on the rear of the lot. When combined sewers are used, the street is the better location, as the street inlets can then be connected directly to the sewer.

These questions should be carefully investigated before adopting plans for a sewer system, as conditions differ so widely. If no other structures prevent, the sewer is ordinarily put in the middle of the street or the alley, thereby reaching the properties on each side with the same length of connection and thus equalizing the cost. In some cities with very wide streets, it is cheaper to put the sewer along both sides of the street and this avoid long house connections.

Planning the Layout

Sewers should be laid as much as possible on a straight line and grade. Sags in the grade should be avoided, as the decrease

of velocity resulting there will cause a deposit of the materials carried by the water, and a resulting obstruction of the sewer. Manholes should be provided at all changes of alignment and grade and at intervals approximating 300 feet along the straight portion. Some authorities recommend lamp-holes, with a view to saving the cost of the manholes, but we find that the latter amply justify the additional cost. If a sewer becomes obstructed, it will be necessary to have an opening large enough for a man to work in, to insert hose for flushing, or rods and other tools for cleaning; in such case a small lamphole would be useless and merely an aggravation.

GETTING THE LINE

In laying out the work for construction the requisites are: first, to so place stakes or other marks that the contractor can obtain the line and grade correctly, when needed; second, to place them so that the engineer does not have to be on the spot every moment to see that no mistakes are made.

Ordinarily I prefer the setting of stakes parallel to the center line and offsetting a certain distance therefrom, say from 3 to 8 feet, depending on the width of the trench, the character of the excavation and other conditions. This places the stakes where they are not likely to be disturbed during the progress of the work. The measurement to the center line can be easily made by the foreman or man in charge of digging the trench, using a pole cut to the exact length of the offset distance, and thereby avoiding the trouble and possible inaccuracy in reading a tape.

GETTING THE GRADE

The same stakes are used for grade. If the grade of the sewer be parallel to the surface of the street or alley, the stakes can be set parallel to the sewer grade and a certain distance above it. The easiest way to grade these stakes is to "tilt" them in, as we call it. A stake is driven at one end of the sewer at the certain height above grade, and another stake at the next change in grade, the same height above the sewer

grade; the instrument is set over one stake, the level rod placed on the stake and the target set at the height of the instrument; then the rod is taken to the other stake, the telescope is sighted and the cross-hairs are clamped on the center of the target. Thus the line of sight of the instrument is parallel to the grade line of the surface of the stakes. Then the rod is placed in turn on each intermediate stake, which is driven until the center of the target reaches the line of cross-hairs of the instrument. This method is very simple and easy as well as accurate, but a few men are encountered who are not familiar with it.

The stakes should be driven to about an inch above the ground, as thereby they are pretty well protected from disturbance in working over and around them, and they should be not over 33 feet apart, so that a chalk line stretched between them may not sag by its own weight. Where the ground is irregular, or the sewer grade not parallel to the surface, the stakes can be driven down to an inch or two above the ground, and levels taken on them, whereby the cut at each stake can be computed.

In alleys it is often advantageous to drive only enough stakes to keep the line, and to drive nails in the adjacent buildings for the grade; these nails can be high enough above the ground not to be covered with the earth excavated.

The grade marks having been established, the procedure is as follows: From the stakes or grade marks, level across to the sewer and fasten boards by nailing to the sheeting or braces, if used, or to stakes driven in the bank. It will be found convenient to raise a certain computed distance above each stake, so that the templets will be a couple of feet above the ground; thus they will not interfere with getting material into the trench. A handy apparatus for setting templets is made, which consists of pointed bars for driving into the ground, and on these bars are horizontal bars or templets, clamped to the uprights with convenient fastenings by which they can easily be set at any desired height.

Then stretch a strong fishing line or light chalk line along these templets. As this line will then be parallel to the grade line of the sewer, the pipe or the form for a brick or concrete sewer can easily be set to exact position by measuring down from the chalk line with a marked pole, which

should have a bracket or angle iron at the base, to set into the end of the pipe.

Materials for Sewer Construction

The relative merits of the materials used in sewer construction have been freely discussed in late years, and much acrimony has been developed. These discussions have too often degenerated into attacks upon one material by the adherents or manufacturers of another. This should not be so. It is a mistake that reacts to the disadvantage of all concerned. No one material possesses all the merits nor all the defects.

VITRIFIED PIPE AND BRICK

For sewers up to 24 inches diameter, vitrified pipe and cast iron pipe have qualities which are well-known and recognized. For larger sewers brick was formerly used, and in some localities may still be advantageous; but the increasing price of brick, together with the high cost of construction, has induced the use of other materials in most places. If brick be adopted, it should be of a good quality of hard-burned sewer brick, or a vitrified brick not so hard as required for paving. Often the invert may be lined with vitrified brick and the remainder of the sewer made of common brick. Brick should be straight, not warped nor twisted, and should be laid with close joints entirely filled with a good quality of Portland cement mortar. Skilled labor is required for laying: the ordinary brick mason is not fitted for this work, which is usually done by "floating" brick layers, who demand high wages and are very independent.

CONCRETE AS A MATERIAL

Concrete for sewers is coming into use largely for the following reasons: (1) its comparative cheapness; (2) its flexibility or adaptability for a variety of forms; (3) its use requires little skilled labor; (4) it exactly fills the irregularities of the trench, giving better support and a more solid foundation; (5) sewers can be built in a solid mass, hence are less liable to settlement, and have not so many joints to be made water-tight, although, on the other hand, it is not easy to make the body of the pipe impervious.

Concrete is used to some extent in the smaller sizes in competition with vitrified pipe, but its chief field for usefulness lies in the larger sizes, from 24 inches up,

where the cost of vitrified pipe is prohibitive and that of brick is excessive. Concrete is employed in several modes of construction: it may be molded in place in the trench as a monolithic structure, either plain or reinforced; it can be made in sections outside the trench and laid as pipe; or it can be molded in blocks or segments with suitable reinforcement.

SYSTEMS OF CONCRETE PIPE CONSTRUCTION

The systems of pipe construction are numerous, differing in methods of forming the joints and in character of reinforcement. Some are made circular and some with a flat bottom; some are machine-made and some are hand-made. One variety has bell and spigot ends and the joints are formed as in vitrified pipe. Another has one end tapered and the other enlarged; the small end fits into the large end of the adjacent section, leaving a groove around the exterior which is filled with mortar after joining the reinforcement in the two sections. In filling the joint a tin "joint runner" is placed around the pipe and the joint filled by pouring. Another kind has a spigot somewhat shorter than the bell, and when the two sections are abutted, a dove-tailed recess is formed on the inside of the pipe: the reinforcing metal laps in this recess, which is then filled with mortar from the interior. This is claimed to give an absolutely tight joint, free from cracks.

Still another system has a notch cut out of the interior of the pipe around its lower circumference, and out of the exterior around the upper half of the circumference. When the sections are joined, this leaves a groove for the reception of the mortar, on the inside for the lower half of the sewer, and on the outside of the upper half, whereby the mortar is always plastered *downward*, causing it to be more easily placed and kept in position.

For reinforcement, these different systems use rods, bars, bands, expanded metal, triangular mesh, rib metal, etc., and the tedious part of the work is joining the reinforcement in the adjacent sections, and properly cementing the joints, which takes continual care and inspection. The same care, however, is needed on the joints of vitrified pipe sewers. By means of derricks and block and tackle or chain hoists, these pipes, even in the large sizes, are easily handled and placed to grade. They must

be well bedded and thoroughly tamped around the quarters and up to the springing line, as indeed must all sewers.

BUILDING MONOLITHIC CONCRETE SEWERS

Monolithic concrete sewers, or those built in the trench, can be built around wood forms, but metal ones are preferable. They may be either half-circle or full-circle. Personally, I prefer the full circle as requiring fewer operations to complete the work.

The trench is dug to the depth and width which allows the desired thickness for the shell of the sewer. It does not need to be shaped carefully, as the concrete will fill irregularities. If water be encountered, measures must be taken to keep it from the concrete until setting has taken place. This can be done successfully by a subdrain of common tile of suitable dimension, which will amply justify its cost.

Our method of operation is to place in the trench the concrete for the flow line, giving it the proper grade and shape by striking it off with a straight edge, resting it on heavy blocks cut to the radius of the sewer, and set to the grade of the flow line. When this concrete is sufficiently hard, the sewer forms are placed thereon and the concrete poured around them. Forms for the outside of the barrel are not needed, as the sides of the trench serve that purpose up to the springing line. For this portion the concrete should be mixed wet enough to pour. It should be tamped or jostled so as to fill all interstices and bring the free mortar to the surface, making the mass homogeneous. Above the springing line the concrete must be a little stiffer in order to hold its position and not flow away when shaped as desired. The outer surface can be finished by floating or troweling, if desired, but a handy man with a flat shovel can give it a good shape and finish, and do it expeditiously.

For reinforcing, twisted rods or lug bars can be used, but, personally, we find expanded metal or rib metal the most satisfactory.

This is made in sheets, which can be placed much more quickly and easily and retained in position more successfully than rods. The sheets are bent to the proper radius and put over the forms, being held the proper distance therefrom by wooded strips which are removed as the concreting

progresses, or by small pieces of brick or molded concrete blocks which are left in place. When the concrete is set sufficiently, the forms are collapsed and moved ahead to the next section. If the forms are kept oiled and the tamping and jostling have been carefully done, the interior of the sewer should present a true and smooth surface. Any irregularities that appear should be taken care of immediately by brushing and plastering.

A well-constructed concrete sewer can be made almost as smooth as vitrified pipe, but it takes careful workmanship and inspection, and often falls short of perfection. Good workmanship in mixing and depositing, as well as proper selection and proportioning of cement and aggregates, is necessary to secure good concrete work of any kind. It should not be neglected because the finished structure is to be covered with earth and hidden from view.

Comparing the ordinary concrete pipe with the monolithic, we find the monolithic somewhat cheaper under favorable conditions. It can be made more nearly waterproof than the joints of the pipe. Tamping under the quarters of the pipe takes time and trouble, and evidently does not give as solid results as the monolithic with the concrete built right against the bank. The pipe requires a wider trench to give room to do this tamping, while for the monolithic the cutting can be made of the exact dimension.

When treacherous soil is encountered, or it is desired to do the backfilling immediately, the pipe has the advantage; also it can be made under shelter, utilizing periods of inclement weather, and in general under more favorable conditions of workmanship and inspection. Local conditions must determine the relative merits of these systems.

VITRIFIED CLAY SEGMENT BLOCK

A new material—or, rather, an old material handled in a new way—which is offered for the use and approval of engineers is vitrified clay segment block. It is made of the same substance and burned in the same way as vitrified pipe. It is suitable

for sewers of from 30 inches to 108 inches diameter, and is made in segments or blocks of a convenient size to handle. These blocks are constructed of three layers, connected and strengthened by longitudinal ribs. They have tongued and grooved longitudinal joints and shiplap joints at the ends. They are laid in cement mortar, with the end joints staggered to give a good bond. Being made of the same material, they have the qualities of vitrified pipe in being smooth and impervious.

The lower half of the sewer is laid without the use of forms, but the upper half requires them. Before striking the forms, the earth must be tamped carefully around the quarters and up to the springing line, even more thoroughly than with other sewers. Backfilling can be done immediately. It is claimed that these blocks can be laid easily and rapidly, and that the cost is low.

But, as I said above, there should be no controversy among the advocates of the different materials. Inferior aggregates, insufficient cement and slovenly workmanship have been put into concrete sewers, which thereupon have failed. On the other hand, unsuitable clays and improper burning have gone into vitrified pipe, which likewise failed. Both kinds have been injured by acids and alkalis. Both kinds have borne the burden of reproach caused by failure due to improper laying and backfilling of the trench. These failures have been heralded far and wide as being inherent in the material, instead of being charged to workmanship, where they belong. On the other hand, both kinds have been in successful use for many decades, giving good satisfaction and a promise of a long life still to come.

Engineers should recognize the fact that carefully drawn specifications and thorough and honest inspection can obtain good results in both materials; that we should entertain prejudice against neither, but examine each case as it comes up, weighing conditions carefully and impartially, and should adopt the system that promises our constituents an honest dollar's worth of sewer for every hundred cents of cost.



FACTORS IN THE SUCCESS OR FAILURE OF STREET PAVEMENTS

EDITOR'S NOTE.— *The following is the third of the series of articles under the above heading to be published in THE AMERICAN CITY, as announced in the July number. The two articles which have already appeared are:*

SHEET ASPHALT PAVEMENTS—Daniel T. Pierce, Executive Assistant, The Barber Asphalt Paving Company.

ASPHALT BLOCK PAVEMENTS—Edwin J. Morrison, President, The Hastings Pavement Company.

The remaining articles in the series will be:

BRICK—Will P. Blair, Secretary, National Paving Brick Manufacturers Association.

CONCRETE—W. A. McIntyre, Chief Road Engineer, American Portland Cement Manufacturers Association.

GRANITE—Zenas W. Carter, Field Secretary, Granite Paving Block Manufacturers Association of the United States.

WOOD BLOCKS—H. S. Loud, Chief Engineer, United States Wood Preserving Company.

The articles will be published in alphabetical order, as listed above. As the manufacturers of the various types of pavement are vitally interested in the proper construction and maintenance of their products, and have necessarily made a very careful study of this subject, they are able to offer thoroughly practical advice regarding factors to be considered and mistakes to be avoided. It is not the intention of this series of articles to advocate the merits of any particular kind or brand of pavement. The assumption will be in each case that a city has decided to lay a pavement of the type under discussion; the object of each article being to offer suggestions as to how the longest life may be obtained for such a pavement at the least possible expenditure to the municipality.

This series will be followed by one on various types of patented pavements.

Precautions to be Used in Securing Successful Bituminous Macadam Pavements

By Philip P. Sharples

Barrett Manufacturing Company, New York

THE construction of bituminous macadam pavements is seemingly such a simple matter that any one who has ever ridden in an automobile or driven a horse deems himself competent to build a road by either the penetration method or the mixed method.

With such an idea harbored by so many people it is little wonder that bituminous macadam pavements are not always successful.

To some the penetration method means throwing a few crushed stones on the road and then pouring on some form of bituminous material (it does not matter much

what) in any way that is convenient, giving the whole a few licks with the roller and calling it a job.

The mixed method, because it costs a little more, is often thought to warrant a little more care and perhaps a foundation.

Of course, to any one who has had thorough road training such ideas are preposterous and laughable; but they, nevertheless, are not so far from those held by many people whose observation should lead them to know better.

What, then, are the requisites for good bituminous macadam road construction?

First and foremost comes skill in road

building. Like skill in everything else, it is the result of intelligent study, coupled with actual practice in road construction.

Given a bituminous road to build, there must be some one on the job who *knows*. The best work will be done only when every one—from the engineer who laid out the road down through the contractors, the inspectors, the manufacturers of the bituminous material, the roller man, the spreaders of the stone and of the bituminous material—is adept each on his own part of the job.

If proof were needed to substantiate such a common-sense point of view it would only be necessary to compare the perfect tarvia macadam laid in a city like Laconia, N. H., where almost every one from the engineer, C. A. French, to the lowest paid man on the pay-roll has worked together for years, with the work done with no engineering supervision by some contractor who was awarded the job because he was the lowest bidder and figured on using the cheapest materials in the cheapest way, even if he did not figure to leave some part of them out.

Let us take up now some of the specific precautions necessary in bituminous macadam construction.

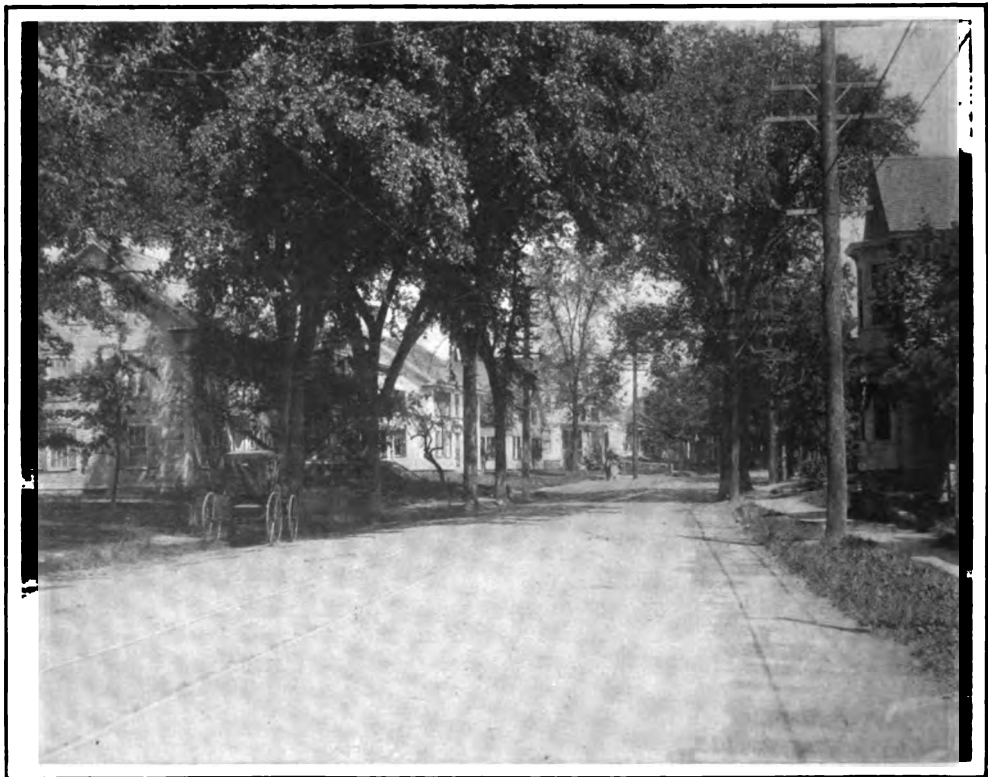
Foundations

The foundation should be prepared with great care. No one would think for a minute of building an \$8,000 house on a mud bank with no foundation; then, why build an \$8,000 road without a foundation?

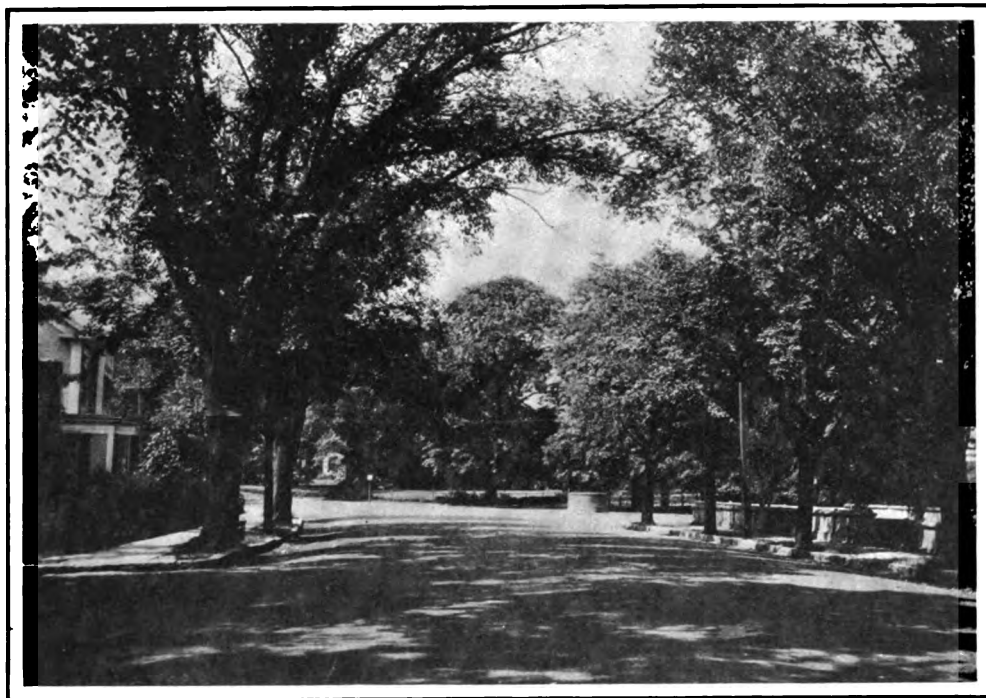
The drainage must be perfectly attended to. Wherever water stands there will be weakness. The finished foundation must present a smooth, hard, dry surface properly shaped so that it will conform to the finished contour of the road. For bituminous surfaces the crown should be much lower than for plain macadam. Three-eighths of an inch to the foot is ample. More tends to make the road slippery and uncomfortable to travel on.

Stone

Much could be said about the kind of stone best for bituminous macadam construction. In practice it is generally neces-



UNION AVENUE, LACONIA, N. H., PAVED WITH BITUMINOUS MACADAM



BRATTLE STREET, CAMBRIDGE, MASS.

An example of penetration macadam maintained by surface coatings of refined tar

sary to take the stone available and make the best of it. Undoubtedly good trap rock makes the best road metal, and it may often be economy to pay more for a good quality of stone for the wearing course, while putting in the base course with a cheaper stone. Only a thorough analysis of the local factors of the problem will show what is true economy.

For the bituminous wearing surface it is absolutely essential to have clean stone. This point cannot be too strongly emphasized.

Base Course

The base course is spread over the foundation. The thickness will depend on the strength of the foundation. From 4 to 6 inches is usual with solid foundations. With softer material 8 inches is not too much. Where the stone is laid more than 4 inches it should be put in in layers and each layer separately compacted by the roller. For example, a 6-inch course should be put in in two 3-inch layers; an 8-inch in two 4-inch layers.

The size of stone generally specified is to pass a $3\frac{1}{2}$ -inch ring and be retained on a

$2\frac{1}{4}$ -inch ring. If the stone is hard and tough, it may be slightly smaller; if soft, slightly larger than these dimensions.

The roller used is best a 10- to 12-ton, three-wheeled machine. The rolling on each layer must begin at the sides and work toward the center in order to maintain the proper shape of the road.

After the base is solid, the spaces between the stones should be filled with fine, clean gravel, coarse sand or stone screenings. Rolling should continue while the materials are spread on the road. This filling of the stone base is important. It keeps the foundation material from working up into the base; it makes the base more secure, and it prevents the bituminous material from running down into the base, thereby wasting material and draining it away from the place where it is needed.

The base thus prepared may be used for either a penetration top or a mixed top. Let us first consider the penetration top.

Penetration Method

WEARING COURSE.—The stone for the top or wearing course is spread over the prepared base. Even greater care must be



PAVING SCENE IN GREEN LAKE, WIS.

Method of applying refined tar under pressure, from single nozzle

used to get it uniformly spread than for the base course. It is customary in many places to dump the stone on broad platforms and then place it in the road with shovels. Stone dumped in piles and leveled off never makes a smooth road. Owing to the compacting of the bottom of the pile and the sifting down of the small sizes, the resulting road is of uneven density and will wear into hummocks.

The size of the stone for this course is usually $2\frac{1}{4}$ to $1\frac{1}{4}$ inches measured on rings, but, like the base, may be varied within limits to suit the quality of the stone. A softer stone allows a larger size, while with a hard, tough rock a smaller size gives better results. The stone must be absolutely clean, free from all dust, loam, or clay. Dirty stone will never produce good penetration bituminous macadam roads.

The rolling is done with the same weight roller as used on the base. In case the traffic is to be light, a tandem roller of 8 tons is permissible. The sides are rolled first and the

roller worked towards the middle of the road.

The greatest of care must be used in rolling this course. The surface must be well knit together, smooth and firm. At the same time it must be open enough to admit the bituminous material. The engineer must watch the stone carefully to see that it is not crushed too much, as in this case the door will be closed to the entrance of the bituminous material and it will be left as a mat on the surface instead of entering between the stones to bind them together.

On the other hand the stone must not be too open, as in that case the binder will run through to the bottom of the course. If the stone is very hard, it may be advisable to add a small quantity of $\frac{3}{4}$ -inch stone just previous to the last rolling, to reduce the void space.

After the rolling is finished, the stone should be $2\frac{1}{2}$ inches in depth.

BITUMINOUS BINDER.—The road is now ready for the bituminous material. There are many brands offered in the market for penetration work, but those prepared from



AUTO TRUCK SPRAYER DESIGNED FOR PENETRATION WORK AND SURFACE TREATMENT WITH REFINED TAR

refined tar were the first used, and their many advantages for this kind of work still keep them in the lead. A properly prepared, refined tar has physical qualities that make it especially adapted to penetration work. Care should be taken to purchase only from reliable manufacturers who have had experience in making materials for this purpose, as the requirements are exacting. Usually 100° to 110° F. is the proper melting point (cube method in water).

The refined tar is easily liquefied by steam heat, which leads to its economical handling on large jobs in tank cars and tank wagons. It sticks to cold stone—an all-important characteristic in penetration work—and it has a certain set to it, which tends to keep the road smooth and prevents it from rolling up.

The methods of treating and applying the refined tar must be suited to the job and its location.

On large jobs, tank cars heated by steam are used, and the refined tar applied through pressure nozzles employing either air or steam pressure, and used either singly or in batteries. In some localities near the manufacturing plants, the refined tar is sent out all heated and ready to apply either in horse-drawn tanks or in motor trucks. The latter are fitted with power machinery for applying the refined tar.

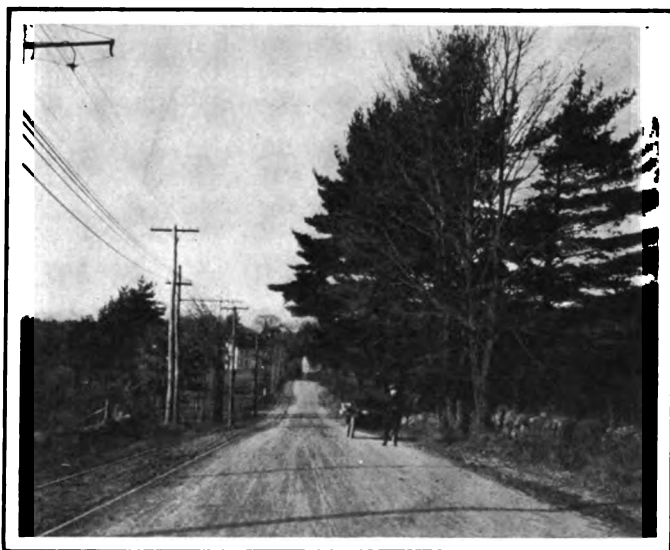
On small jobs or where it is difficult to operate tank cars and tank wagons, the bituminous material is shipped in barrels and heated in open kettles. Hand pouring pots are used to distribute the refined tar on the road.

The proper spreading temperature is 200° F. to 275° F., but the latter temperature is too high where open kettle and direct fire are used. Too long an exposure to the temperature would result in a hardening of the bituminous material.

The bituminous material must be spread with great care, and, like the stone, must be entirely uniform. The amount per

square yard, usually 1.7 gallons, must be judged with accuracy. The amount to be covered with a single barrel or tank wagon must be measured off and checked up. Not only should the average be correct, but each square yard should contain its gallon and seven-tenths. It will avail little if the average of two yards is correct, with one yard containing all the material and the other none at all.

The surface should now have a uniform black appearance, with every square yard like every other square yard. The spaces between the stones should show. They should now be chinked in with $\frac{3}{4}$ -inch



A ROAD IN FORRESTDALE, R. I.

A good example of bituminous macadam laid in 1912

stone. The size may be varied with the size of the void to be filled and the kind of rock. The stone must be very clean and spread uniformly over the surface, but not enough in quantity to form a distinct layer.

The road is rolled again to force the stone into the interstices. If any excess remains, it is removed with push brooms. Unless this excess is removed it will cause the seal coat to peel off through lack of union with the base.

The seal coat ($\frac{1}{2}$ to $\frac{3}{4}$ gallons per square yard) is applied by the same apparatus used in putting on the first coat. As on the first coat, the utmost care should be taken to put the material on uniformly.

The road next receives a coat of screenings or peastone. The peastone is prefer-

able with a soft stone or with a heavy-traffic road. The screenings are preferable with a hard trap rock. Here again the material must be applied uniformly. A final rolling prepares the road for traffic.

Mixed Method

If a mixed top is desired instead of the penetration top, mixing apparatus must be provided if the work is to be done economically; in fact, with any bituminous material except certain grades of refined tar it is not possible to do hand mixing. Mixers are on the market in various designs. It is important to get one in which the temperatures are easily regulated, so that there is no danger of burning the bituminous materials. If an open flame is employed in the mixer, it should never be allowed in the mixer after the bituminous material has been added.

Either stationary or portable plants of various capacities may be obtained. A plant should be chosen whose capacity is adapted to the gang to be employed on the job. The places for setting up the plant should be carefully considered. It is oftentimes advisable, even with portable plants, to set them up at the stone supply and haul the coated stone rather than the separate materials.

A discussion of stone sizes, the grading of the mix and other technical details need not be entered into here. Suffice it to say that the judgment of men with practical and trained knowledge should be sought. In an open stone mix, a stable mix should be sought. Different rocks require different sizings and mixtures of sizings according to their form of fracture and the shape of the pieces produced.

In the same way, the amount of bituminous material will vary with the conditions. Only experience and knowledge can determine the correct percentage.

As in the penetration work, a wide variety of bituminous material is offered by the market. Some are more suitable for one type than another. With the cold-mixed type, where the stones are not heated, a refined tar suitably prepared will give good results. The refined tars also are economical with hot aggregate in that the temperature may be run much lower and considerably more yardage turned out with the same gang.

Great care must be taken to watch the temperatures of the stone, the bitumen and

the mix both in the mixer and on the road. Many failures are due to lack of care in watching temperatures. A burned batch may not show till the spring after the first winter, or even later, but it is sure to reveal itself in time.

The spreading on the road must be carefully done by skilled men. So much depends on eye training to carry grades that skilled labor cannot be dispensed with on mixed work. The roller man cannot do as much smoothing out as he can in plain macadam.

The rolling is, however, extremely important. The details vary with the bitumen used and the grading of the mix. With coal tar cement, for instance, the rolling must be deferred until the initial set has begun. In hot weather this may not be for several hours. With certain grades of asphalt, on the other hand, rolling must be begun as soon as the mix is spread.

The seal coat on open mixes is an important part of the pavement, and should be put on with great care. The same apparatus may be employed as in the penetration work. It is more usual, however, to use pouring cans, followed by squeegees, to rub it thoroughly into the pavement.

In the mixed work, as in the penetration work, too much emphasis cannot be placed on uniformity. It is absolutely essential that the stone sizes be kept uniform, that the temperature be uniform, that the materials be laid in a uniform manner and rolled all alike.

Maintenance

An article on bituminous macadam would not be complete without a word on maintenance. Bituminous surfaces are peculiarly resistant to traffic so long as they are intact. When once ruptured, disintegration goes on apace. The moral is: make all repairs at once when openings are made for any purpose or when breaks occur due to defective workmanship.

If the surface becomes generally dry, a seal coat should be applied at once, without waiting for general disintegration to take place. A few cents a yard applied in this way saves large repair sums later, or even a replacement of the whole pavement. In coal tar materials, a material for application cold is now supplied which is both cheap to apply and efficacious in results. It can be used on any bituminous macadam as a life-saver if used in time.

News and Ideas for Commercial and Civic Organizations

New Bulletins

HAZLETON, PA.—*The Hazletonian*. Published monthly by the Hazleton Chamber of Commerce.

LANCASTER, PA.—*Chamber of Commerce Bulletin*. Published monthly by the Lancaster Chamber of Commerce.

TRENTON, N. J.—*The Eye-Opener*. Published monthly by the Trenton Chamber of Commerce.

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Educating the Legislature as to Municipal Needs

The cities of Ohio, and particularly Cincinnati, have suffered for years through a failure of the Ohio Legislature to comprehend their needs and to allow such legislation as would permit the onward march of progress. Despite opposition of the bitterest sort, Cincinnati now owns its own university, one of the finest water-works systems in the world, and even its own railroad. It has also the largest municipal hospital in America. At the last session of the Ohio Legislature it obtained permission to build a subway and rapid transit system. To the sorrow of the Legislature, however, the city of Cincinnati is not yet through. There are a number of other ambitious projects on foot which have received the endorsement of the Chamber of Commerce and civic organizations, and which will require legislative action.

Realizing the extent of misunderstanding existing between city and country legislators, the people of Cincinnati this year set forth on a campaign of education. They were determined that matters vital to the welfare of cities should not be buried under the ooze of misunderstanding. They determined to show the legislators of Ohio, many of whom had no conception of the needs of a metropolis, the extent of Cincinnati, what it has secured by determined battles before previous legislatures, and what will probably be needed in the future. Ac-

cordingly a large fund was raised for the entertainment of the legislators, and they were invited to hold their annual reunion in Cincinnati. About 220 of the legislators and their wives accepted the invitation and were guests of the citizens of Cincinnati from September 21 to 25.

The legislators were shown the beautiful parks of the city, and the extent of necessary improvements was described to them. They were shown the industrial districts, and the needs of these districts were related. They were shown the municipal school system from kindergarten to university, and were told of future needs. A review of the police and fire departments, an exhibition of the water-works system and a description of the mazes of city government served to enlighten them further. Finally they were taken in an all-steel train over the 330 miles of the city-owned Cincinnati Southern Railroad, shown its shops, bridges and terminal facilities, and told how this road yields the city nearly a million dollars a year over improvements, interest and sinking fund charges. A delegation of business men accompanied the legislators on all their excursions in and about the city and explained in detail what is done with the millions of dollars raised in Cincinnati by taxation—and thus they learned why a big city must spend colossal sums for purposes of which the ruralist cannot conceive except by personal observation and study of the problems the urbanite faces.

Two-thirds of the legislators attending the reunion at Cincinnati came from rural communities. Their eyes were opened, and it is the belief of the citizens who entertained them that procuring legislation for the relief of present needs and for progress in the future will obtain from the rural legislators of Ohio that hearty coöperation which has been remarked chiefly by its absence in the past. It is believed also that this trip of the Ohio Legislature to Cincinnati will mean that the other big cities of the country will find it

to their advantage to adopt similar educational methods. Perhaps they will not be called upon to provide an entertainment on such a large scale as that given by the citizens of Cincinnati, but they will profit by giving the country legislator his information about city problems by personal observation. The same plan may be effectually applied in every state of the Union, and will serve the purpose of eliminating the feeling of prejudice which is confessed to exist between the city man and his brother in the country. It is a mistaken feeling, the outgrowth of ignorance. Its only remedy is education, and we believe the Cincinnati experiment has furnished that education, at least in Ohio.

W. C. CULKINS,
Executive Secretary, Cincinnati Chamber of Commerce.

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Commercial Organizations Can Aid the Early Shopping Movement

All over the country the campaign for early Christmas shopping has been felt with increasing effect from year to year. From the Atlantic to the Pacific, newspapers and magazines have taken up the campaign, stores have advertised it, and ministers and lecturers have talked about it. Boards of trade, chambers of commerce and street railway companies have helped, until now there are few places throughout the country where any Christmas shopping is done at all where the Shop Early idea is unknown.

Slogans like, "My pledge will be, no matter where I shop, I will shop early," and the well-known one, "Do your Christmas shopping early—early in the day and early in the year," have appeared in recent years in advertisements throughout the six weeks preceding Christmas and show the spirit which is now becoming so widespread throughout the country.

In the store advertisements the methods used are many and various. One makes its appeal to the shopper for his or her own sake: "Shop early because then the crowds are less and the selection is best, and you will be more comfortable and have better service." Another says: "Shop early in order that shop girls and messenger boys and delivery men may not be overworked by the last-minute rush." One cartoonist summed this up most effectively by saying: "If you're selfish shop early for your own convenience. If you're unselfish shop early for the sake of the employees." One store found it most effective to say, not "Do your shopping early," but "Other people have begun their Christmas purchasing. If you don't begin too, all the best things will be gone."

The campaign is carried on by stores in their newspaper advertisements, in elevators, in windows, by means of cards and fliers, and in store diaries. Newspapers and magazines have urged it by means of editorials, poems, stories and cartoons.

The New York Telephone Company has done much toward urging on the campaign by their advertisements in the daily papers,

and especially by cards which they sent out with their November bills. These are headed, "Buy Early and by Telephone," and following this caption are stated the reasons for and benefits derived from so doing.

In Boston, Mass., the Chamber of Commerce has taken up the matter. A large publicity campaign has been waged. Posters have been placed in street railways with the message: "The Chamber of Commerce asks you to do your shopping before December 15." Unused billboards



FOR THE SAKE OF HUMANITY, SHOP EARLY

have been utilized for the same purpose and there has been wide publicity in local newspapers and magazines.

In Rochester, N. Y., the Chamber of Commerce has taken over the whole matter of urging early Christmas shopping. Behind the publicity campaign waged by local newspapers, magazines and stores, and by slogans on street car advertisements and transfers, and billboards, and by lecturers and preachers, has stood the Chamber of Commerce. The fact that it is the business men themselves that are standing behind this movement and urging it on has given it an impetus and an importance which are far reaching. The shopping public has become more considerate, and the last-minute Christmas crowds have been lessened in the places where this campaign has been so urgently waged.

NELLE SWARTZ,

Executive Secretary, The Consumers League of the City of New York.

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Prizes to City Employees

NEW YORK CITY.—How the business men of a community can help city government to attain the highest degree of efficiency was pointedly demonstrated at the Central Mercantile Association's third annual presentation of prizes to members of New York City's street cleaning, parks and public works departments. Thirty-three city employees in the humbler ranks of municipal service were awarded gold, silver and bronze medals. Mayor Mitchel himself pinned the medals upon the breasts of the men.

The prize winners were chosen from among over 300 workers in the central mercantile district, who look after the streets, parks and other public places. The Association during twelve months has been inspecting their work in the section to determine where the best services were being rendered. As a result the thoroughfares in the central mercantile district are among the best kept in the Greater City.

Addressing the men, Mayor Mitchel said that he had great satisfaction in joining in an occasion intended to emphasize the good work done in the city departments, rather than to point out their defects, or even to point out possibilities for improvement. "If we are going to get the best work out

of the men in the city's service," the Mayor declared, "there must be the kind of citizen interest in the city's work that the Central Mercantile Association is showing to-day. The people of the city must evidence their appreciation of the faithful work of you men."

Borough President Marcus M. Marks stated that he was not only interested in the men receiving medals, but in the fact that the business men of New York are the ones who are giving these medals. It is about time, he said, that the business men got in touch with government. Unless they do, we will never have good government, he added; for whether the city is governed by the Board of Aldermen or the Board of Estimate or by a commission or



MAYOR MITCHEL PINNING MEDAL UPON
THE UNIFORM OF A PRIZE-WINNING
STREET CLEANER

by a manager, if the people do not take an interest in their government, it will fail.

Street Cleaning Commissioner John T. Fetherston, Park Commissioner Cabot Ward and President Clarkson Cowl of the Central Mercantile Association* also praised the men for their efficient services.

JOSEPH E. KEAN,

Secretary, Central Mercantile Association.

* Mayor Mitchel recently commended the industrial survey of New York City made by the Central Mercantile Association, stating that it furnished the kind of scientific data which formed the basis for the remarkable commercial growth of many foreign cities not as richly endowed by nature as New York.

Spokane's Municipal Exhibit

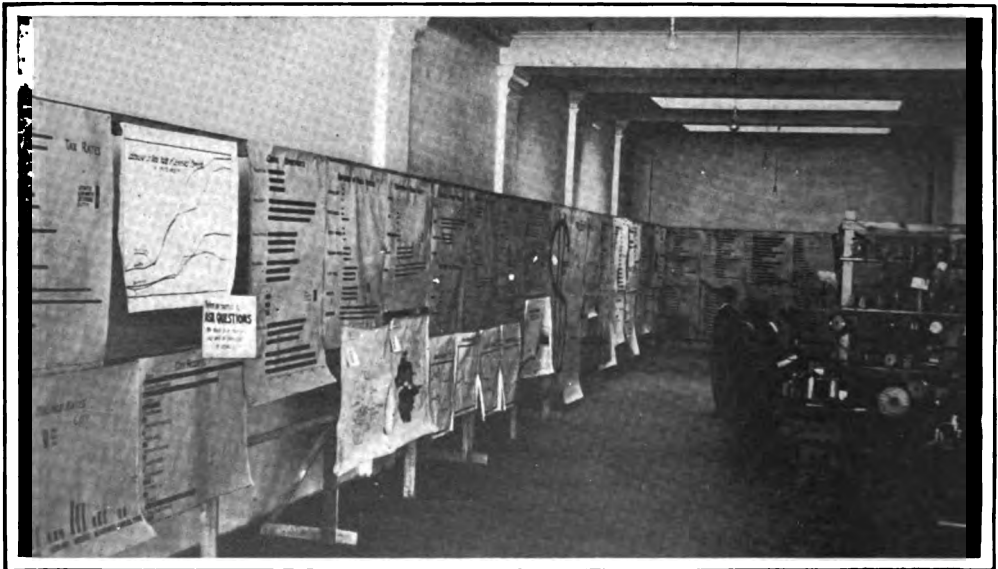
GOOD GOVERNMENT IS YOUR DIVIDEND.
THE CITY IS YOUR CORPORATION.
YOU ARE THE STOCKHOLDERS.

Such was the sign over the municipal exhibit held in Spokane, September 27 to October 2, under the joint auspices of the Chamber of Commerce and the City Council. In an attempt to arouse greater interest in the city's finances on the part of the citizens, a graphical representation of the city's financial condition was prepared. The work was done by the Department of Economics and Business in Whitman College. In addition to the financial exhibits, certain physical exhibits of the water department, parks, public library, weights and measures, inspection department and the highway department were installed under the supervision of Dr. John H. Russell. The whole exhibit attracted much favorable attention. Over 13,000 attendance was counted. The newspapers gave the subject very favorable treatment. The school children from the high schools made special trips to the exhibit, at which times lectures on the business of the city were given.

The charts in many cases were colored, and considerable variety in the kind of charts used was secured. Cartoons repre-

senting some of the most striking features of the city's business were prepared. Essentials were emphasized and the greater portion of the supplementary information was placed on smaller charts, available to any person especially interested in a particular subject.

Among the interesting features brought out in the exhibit was the enormous growth of indebtedness in the western cities. It was found, for example, that among cities of practically the same size, the northwestern cities of Seattle, Spokane, Portland and Tacoma had acquired the largest indebtedness per capita. Of course, the interest paid by these cities was proportionately large. Another feature which attracted considerable attention was the comparison of the city's budget for the last three years. Each department was analyzed into uniform subdivisions and the cost of these subdivisions was compared for the years 1914 and 1915. Contrasted with these expenditures were the new budget items for the coming year 1916. A cursory examination of these charts would thus show whether the cost of any particular department or division was increasing or decreasing. The general tendency for the budget of 1916 was in the direction of a slight decrease over previous years. Many of the visitors were much surprised at this feature. The charts relating to the city



A PORTION OF THE SPOKANE MUNICIPAL EXHIBIT

water-plant included a balance sheet of assets and liabilities, together with a statement of the earnings and expenses for the last year, showing a profit of approximately 4 per cent on the capital invested in the Spokane water-plant.

The Spokane school system has been the subject of much controversy recently. Charges and countercharges have been made that the schools were spending too much money or too little money. In the exhibit the cost per child of the various schools was compared, showing a considerable difference in the cost of supplying different schools of approximately the same size. The increasing cost of equipment and general operation was also shown.

The exhibit in Spokane was prepared under particularly favorable conditions. The city administration, the Chamber of Commerce and school authorities were all eager to coöperate. Much discussion was current concerning the coming year's budgets. The favorable conditions, together with the great interest in the subject, combined to secure an attendance very large for a city the size of Spokane.

RALPH E. GEORGE,
Professor of Economics, Whitman College.

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Peoria Entertains

PEORIA, ILL.—All the commercial executives who on Sunday, September 26, were on their way to the convention of the National Association of Commercial Organization Secretaries, were invited to stop off at Peoria and be the guests for the day of the Association of Commerce. Forty-six secretaries availed themselves of the privilege. They were entertained in tours of inspection of Peoria's beauty spots and industries, also at luncheon and dinner. At seven in the evening a special electric train bore the secretaries to St. Louis, a distance of about 150 miles. The Board of Directors of the National Association, who had preceded the delegates to the convention and were in St. Louis on Saturday, adjourned their meeting early to come to Peoria and be with the secretaries on this occasion.

The foregathering was beneficial in every way. Peoria acknowledges its obligations to the secretaries for coming, the visitation having resulted in inspiring the citizens and making them alert to the important work of city building.

WILLIS EVANS,
Executive Secretary, Peoria Association of Commerce.

A Campaign for Gas Bonds

MUSKOGEE, OKLA.—The Greater Muskogee Association was presented with an opportunity last July to locate a large manufacturing plant in the city, provided a supply of inexpensive gas for a definite period could be assured. This was not immediately available, although Muskogee is said to be located in the heart of the largest gas field in the state. The sum of \$350,000 was needed for building a gas line to the nearest available gas field, and bonds in that amount were secured by a vote of approximately five to one.

It was at first thought that a proposition to vote bonds for any object at that particular time was out of the question, because many citizens had announced their determination not to vote for another bond issue until the indebtedness which the city had already incurred was cancelled. Careful handling of the project was therefore necessary.

A meeting of the Board of Directors of the Association and of its Cheap Fuel Committee was called to discuss ways and means. After considering the difficulty that would probably be experienced in attempting to carry a bond issue for this purpose, the meeting adjourned to meet the next day with the city Commissioners and the Mayor's Advisory Committee. The spirit of this meeting was in favor of the bonds. A meeting of 150 citizens was then arranged for, who met the following night and the matter was again presented. That meeting called a mass meeting. This was held in a local theater, and after the project had been explained, it also expressed itself in favor of the bonds. A committee of thirteen was appointed to select a committee of 100 to work out the details and handle the campaign. The last named committee appointed a number of sub-committees to make reports on amount of gas available, probable consumption, cost of line, etc. The report of these committees resulted in the committee of 100 asking the Commissioners to call an election to vote \$350,000 worth of bonds for building the gas line. A number of mass meetings in the interest of the bonds were held and speeches made, the Association conducting the campaign of education, with the result already mentioned.

W. SCOTT RADEKER,
Secretary, Greater Muskogee Association.

A Campaign for Fire Prevention

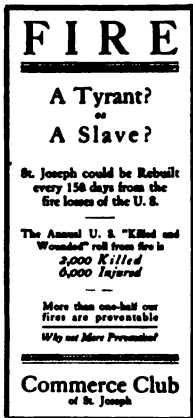
ST. JOSEPH, Mo.—The St. Joseph Commerce Club conducted a vigorous fire prevention campaign of a week's duration a short time since in which use was made of a pamphlet, the cover of which is herewith reproduced. About 3,000 of the pamphlets

were distributed to the members of the Commerce Club and to merchants in St. Joseph, and a few copies were sent to other commercial organizations. The text was published in one of the local newspapers.

During the week of the campaign the Commercial Club arranged with a local theater to present two moving picture films on fire

prevention. These the Club obtained from the Eastman Company and the National Association of Manufacturers. The Club also had placards advertising the campaign placed in each street car and in the store windows.

D. O. DECKER,
Civic Commissioner, St. Joseph Commerce Club.



Plans are now being laid for open forum meetings, in which sales distribution methods and sales matters generally may be discussed, and for constructive educational courses to be conducted during the winter months.

WALTER C. COLE,
Assistant Secretary, Detroit Board of Commerce.

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Governor Brumbaugh on Good Roads

JOHNSTOWN, PA.—The Johnstown Chamber of Commerce entertained at a luncheon recently, as guest of honor, the Governor of Pennsylvania, Martin G. Brumbaugh, also the State Highway Commissioner, Robert J. Cunningham, the Chief Engineer, W. D. Uhler, and a party of 100 automobilists, all of whom were on a cross-state road inspection tour. The subject of better highways is one in which Governor Brumbaugh is especially interested, and on this occasion he expressed himself as follows:

"The question of improved highways is a vital problem before the state of Pennsylvania, and I hope to witness the construction of a thousand miles of new road next year and a thousand miles each year thereafter, until this state is criss-crossed with good roads."

The Governor made a plea for his hearers to send men to the Legislature who will provide the money by means of which the 10,070 miles of public state highway now constructed could be maintained and the construction of new highways placed on a non-political and efficient basis. "If you will provide the money," he said, "you may depend upon Cunningham to make the dirt fly. We are making this trip so that we may meet you face to face and talk the matter over."

The Johnstown Chamber of Commerce, through its Good Roads Committee, has been active in promoting the good roads movement. Its work includes a country-built road from Johnstown to South Fork; it has been lending its aid in keeping all dirt roads in good condition, assisted with the annual Good Roads Day, placed 75 signs at intersections in the county stating the number of miles to Johnstown, and placed large signs advertising Johnstown at the main intersections of the roads leading to the city. The committee is at present work-

A Salesmanship Club

DETROIT, MICH.—At a meeting of 950 members of the Detroit Board of Commerce held late in September, an address was delivered on "The Salesman—The Man of the Hour," by D. M. Barrett, editor and publisher of *Salesmanship*. This address was the means of crystallizing the sentiment which had been growing in Detroit among salesmen and those interested in salesmanship for an organization to develop the science of salesmanship. The nucleus of such an organization was secured at the meeting, over 300 business men of the city declaring themselves unanimously in favor of such an association. On October 5, the Salesmanship Club of Detroit was organized. Its program is so broad that any one interested in salesmanship—be he an office boy, a ribbon clerk, a sales manager or the president of the company—is eligible for membership.

ing for the improvement of four different routes into Johnstown, for the purchase of three pieces of toll road in that section of the state, and for the building of state-aid roads in Cambria County.

J. KENNARD JOHNSON,
Assistant Secretary, Johnstown Chamber of Commerce.

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For Public Safety

MINNEAPOLIS, MINN.—The Public Safety Committee of the Minneapolis Civic and Commerce Association has issued a booklet containing the gist of all important traffic ordinances in force in Minneapolis, also the state automobile law. The booklet includes a list of "don'ts" for both drivers and pedestrians. The "don'ts" for the drivers are given herewith:

"DON'TS" FOR DRIVERS

Don't fail to give signal with hand when turning or stopping. (*City Ordinance.*)

Don't pass open street car gates. (*City Ordinance.*)

Don't overtake and pass street car on left. (*City Ordinance.*)

Don't drive on the left side of street. (*City Ordinance.*)

Don't cut corners. (*City Ordinance.*)

Don't have your muffler cut out when driving. (*City Ordinance.*)

Don't allow inexperienced people to drive your car. (*City Ordinance.*)

Don't overload your car. (*City Ordinance.*)

Don't take blind curves at high speed. (*City Ordinance.*)

Don't approach street intersections at high speed.

Don't forget that the traffic officer regulates traffic.

Don't resent the traffic officer's directions—he is doing his best to prevent accidents.

Don't forget that the street car cannot dodge.

Don't overlook the rights of the pedestrian—his life is just as important as yours.

Don't take things for granted—prepare for the unexpected.

Don't endanger your position in the community by disregarding these suggestions—public sentiment is against accidents.

HOWARD STRONG,
Sec'y, Minneapolis Civic and Commerce Association.

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Competition for a City Flag

MUSKEGON, MICH.—The Muskegon Chamber of Commerce is holding a civic flag contest, which will close December 1. A nominal prize in gold will be awarded to

the successful contestant, who will also have the honor of running the flag up to the masthead after it has been officially adopted by the City Council.

The Chamber of Commerce conducted last winter a competition for a municipal slogan. The honors were won by a woman, who suggested, "We Can and We Will!" and the city is living up to its motto. The present competition follows somewhat as an outgrowth of the preceding competition and was suggested by *The Muskegon Daily Times*, a paper that devotes much energy to advertising Muskegon industrially.

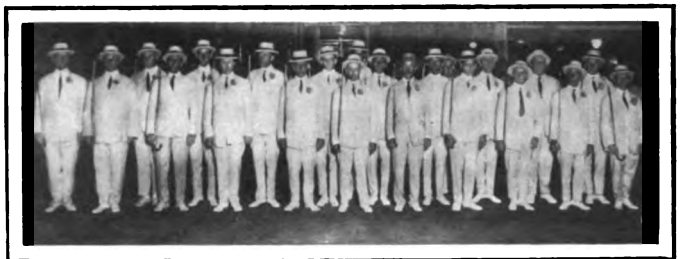
FRANCIS J. TIETSORT,
Managing Editor, *The Muskegon Daily Times*.

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An Electrolier Celebration

FRESNO, CAL.—The turning on recently of the 488 electroliers in Fresno's new lighting system was the occasion of a street carnival promoted by the Fresno Commercial Club "Boosters." The electroliers were installed at a cost to the property owners of \$36,973.

At eight o'clock the Mayor threw the switch that turned the current into the electrolier globes, and the entire system became a brilliant radiance. This was accompanied with cheers, the sounding of automobile horns, ringing of bells, blowing of whistles and the explosion of bombs. An event which proved popular was the public dancing on a street which had been



MEMBERS OF FRESNO COMMERCIAL CLUB "BOOSTERS," WHO STAGED THE ELECTROLIER CELEBRATION

roped off during the afternoon and washed by the fire department. The street was sprinkled with sawdust and made into an excellent dancing floor. A parade of the lighted streets was led by a military band and followed by Companies C and K, the Boosters, a fife and drum corps, and scores of automobiles.

S. LEVY,
Director of Publicity, Fresno Commercial Club.

Boards of Trade Versus Boards of Assessors

By Charles H. Ingersoll

Of Robt. H. Ingersoll & Bro., New York City

THE average Board of Trade is an efficient organization—it brings prosperity to its community by promoting municipal improvements, by bringing new industries there, by making it a convention city, by singing its praises as a summer resort, and by various other ways and means. But no matter how efficient the Board of Trade, it has to take a back seat when compared to the Board of Assessors. There is efficiency! The Board of Trade brings prosperity—the Board of Assessors promptly takes it away. The two organizations seem unable to coöperate.

Taxation takes the cream from prosperity—and frequently much of the milk. Leave it to the Board of Assessors to recognize every improvement! Paint your home or factory, and you'll see how quick you're fined for it! To minimize taxation, builders have made buildings of grotesque shape—two stories in front and three in the rear, for example. Tumble-down conditions prevail in many places and improving and beautifying are carefully avoided, simply because the tax man would soon be on hand to mete out punishment.

A tax upon business in any form becomes a tax upon the consumer in the form of higher prices; and a tax that will not stay where it is put is a bad tax. The consumer is the laborer in more than nine cases out of ten, and the tax upon business is a tax upon capital and industrial enterprise on which the consumer-laborer depends for employment.

A tax upon the products of labor checks the production of wealth, decreases the demand for labor, and in that way wages are depressed. It increases the laborer's living cost; it disorganizes and discourages business.

Taxation as now in vogue is all bad; taxes fully deserve the evil reputation they bear.

Taxation to-day means taking from people something they think they own—hence their persistent objection. This is evidence of the wrong basis for taxation, and that it is interfering with normal life, industry and prosperity.

Taxation of individual property should be abolished in favor of taxation of com-

munity property. Taxation is wholly bad and indefensible, except when applied to common values, and then it is not taxation at all! "Not a single tax" is Mr. Charles T. Root's happy way of referring to a tax on land values.

How We Penalize Improvements

The manufacturer is fined and punished for employing labor and capital: if he makes improvements, makes working conditions more pleasant, he is fined 2 per cent. If he didn't pass the tax along to the consumer, in fifty years his property would be entirely absorbed and confiscated by the taxation process.

But if manufacturers and merchants add their taxes to their prices, how does industry suffer? It suffers because we all are factors in industry. The humblest workman is a factor just as are manufacturers, merchants and bankers. If the business owners could and would pay the tax, conditions might not be so bad. But they pass it along with something added, and this process, repeated several times, makes the consumer pay approximately 5 to 10 per cent more than normal prices.

This makes it a highly-developed, serious problem—that of reduced consumption and high cost of living, the effects of which on the consumer are fully understood. The effects on business are equally vital—the volume of business is restricted, and this, as every business man knows, means abnormal overhead expense, meagre profits and often bankruptcy.

The total taxable wealth of the United States is over one hundred billions of dollars, of which the larger part is what is known as land values. In other words, from 30 to 40 per cent is the creation of labor and capital, and 60 to 70 per cent an endowment of the Creator or an increment due to the existence and demand of all the people.

Yet the taxes paid on land are but one-fifth of those paid on other property, actually reversing the right principle of taxation. The common fund is permitted to go largely into private pockets, leaving the government to subsist as best it may upon heavy overdrafts on capital and labor.

True prosperity must ever be a rainbow

under such conditions. Charity can never cope with poverty, nor systems of finance with unstable business conditions, until this is reversed.

Henry Ford, one of the few truly great captains of industry, has much simplified the great problem of crime—too much, in the opinion of many. He says it is just a question of jobs.

Stop Levying a Tax on Jobs!

How to make more jobs is, in fact, generally recognized as the one big question upon which depend a score of lesser ones. The answer is so plain that every one must know it before another decade of anti-prosperity passes. It is to stop levying a tax on jobs and put it on the source of all jobs. Nearly all our taxes now are on prosperity, and the only ones who escape their share are those who toil and spin not.

Land everywhere and for all time has represented the opportunity of labor to find employment, and it always will. The essentials are: first, to minimize all barriers between labor and land; and second, to coördinate capital with labor in the process of production. Both these objects will be secured by untaxing all investment of capital and securing all revenue from land values.

There are one hundred million people in the United States, more or less industrious, whose prosperity is vital to all of them, since they are all consumers and all but a few producers. They are factors in industry and therefore subject to a 2 per cent tax directly, and indirectly many times this amount. Investigations show that this tax is directly responsible for at least a 10 per cent reduction in industry, and alone accounts for a substantial part of the existing unemployment, for unsatisfactory conditions surrounding the use of capital, inadequate interest rates, failures, panics, etc.

A leading financial paper makes this interesting statement: that while our country occupies but one-sixteenth of the earth, and has but one-fifteenth of its population, it produces of leading commodities as follows: corn 68 per cent, petroleum 63 per cent, cotton 61 per cent, copper 42 per cent, tobacco 35 per cent, lead, silver, live stock 30 per cent each, gold, wheat and timber 20 per cent each. This in a sentence accounts for our greatness in spite of the handicap I particularly complain of. It also gives force to the outstanding facts of unemployment

and poverty existing, and indicates unmistakably that these phenomena, under such conditions of vast production, must have a very positive explanation. My conclusion is that a misplacement of the burden of government is the irrefutable answer. The profits from this almost inconceivable activity are deflected from their natural course, and from a quarter to a half of them are taken from business investors and laborers by land speculators. All of this injustice may be simply, legally, and consistently with every moral and practical precept, corrected by a change in the incidence of taxation.

The direct effects of taxing prosperity are not the whole, nor in fact the worst, part of the evil. The corollary of taxing industry is the untaxing of monopoly.

Idle Hands and Idle Lands

We tax what we want to keep—all forms of industry—thus driving it away; and we exempt largely what is a curse to industry, thus nurturing an industrial cancer. There is a direct relation between idle hands and idle lands, since the only objective for labor is the land. There would be no unemployed if there were no land held out of use. And every foot of land required by labor would be used if it were taxed in place of improvements.

The combination of labor and capital is the dynamic factor in industry and prosperity. Untrammelled, those two partners in production would work together harmoniously, producing without limit conditions of prosperity, enlightenment and freedom. But until the land-holding, site-grabbing monopolists are taxed in proportion to the benefit they derive from government, labor and capital can never work together with any high degree of efficiency.

There are signs of dawning intelligence. Pennsylvania has the grace to exempt machinery used in production, and stocks of goods in stores, and has recently passed a bill granting certain cities the right—which they are acting on—of further exempting personalty and improvements, and imposing additional local taxation on land values, the only common fund legitimately subject to taxation. When this movement gets well under way it will mean hard competition for her neighbor states. I know manufacturers who are already considering removal to Pennsylvania.

Houston, Tex., has had a remarkable demonstration of untaxing industry. By stages covering a dozen years or more, they reduced their taxes on industry and increased them on land values. The result is almost miraculous improvement in all things that make for prosperity and freedom, and an almost solid electorate behind the plan—all except a few land speculators who readily found a judge to overrule the people. Many state movements are well along the road to righting the capsized taxation boat, while in Europe, and even in China, New Zealand and Australia, there are demonstrations like that in Houston, and in Western Canada are a number that can't be stopped.

Prosperity flows from human activity, and the most untrammelled activity produces the greatest amount of prosperity. This human activity results from the proper banding of

labor and capital in industrial production.

But when both are compelled to yield tribute to the land-owner, both are robbed of a substantial portion of their natural wages, and pitted against each other in strife for an inadequate share of their just product. This situation will be obvious to anyone who will regard it even superficially.

The remedy is equally obvious—a scientific method of levying taxes. Taxation now rests more upon capital and labor than upon land. It should be entirely removed from the former and concentrated on the latter. This would make land-holding for speculation unprofitable, and necessitate its productive use by labor and capital. At the same time labor and capital would be free from the discouragement of taxation, and the prosperity produced in part by your local Board of Trade would not be destroyed by the Board of Assessors.

New Publications on European Commercial Organizations

In order that American business men may be able to procure condensed, authoritative information with respect to the way in which the European nations carry on trade campaigns and organize their commercial activities at home, the United States Bureau of Foreign and Domestic Commerce has been issuing pamphlet presentations of the subject, covering several of the leading European countries. One of these booklets is full of concrete, pertinent facts on the subject of British commercial organizations. The world-circling foreign commerce of the United Kingdom bulks large in the consideration of every phase of international economics; it is a factor to be reckoned with in the most famous marts and in distant jungle and desert stations. Americans engaged in developing export trade observe its manifestations in many lands, but with the system back of the activity in Great Britain, the methods and conduct of commercial affairs in the United Kingdom itself, the way in which the British Government fosters and directs expansion, the people of the United States are, perhaps, not so familiar.

The title of this new publication of the Bureau is "Commercial Organizations in the United Kingdom" and its author is Mr.

Archibald J. Wolfe, who has investigated the subject on the ground. In its 53 pages are included lists of all British chambers of commerce and a discussion of their methods and functions, a detailed account of the state aid to trade, and a description of manufacturers' and employers' organizations in all the leading industries.

This pamphlet is Special Agents Series No. 102, and five cents will bring it from the Superintendent of Documents, Washington, D. C.

Another booklet, entitled "Commercial Organizations in Switzerland," reviews the history of chambers of commerce and trade, explains the independent and official types of organizations and their functions, and gives particular attention to the Swiss Commercial and Industrial Association, which comprises in its membership all Swiss commercial organizations of consequence. There is a discussion of the Swiss Federal Department of Commerce and an outline of its evolution, as well as general information concerning such matters as the localization of industries, principal products, and commercial publications.

It is No. 101 in the Special Agents Series, and costs 5 cents.

"Good Fare, Good Care and Fresh Air For Every Pittsburgh Baby"

By E. G. Routzahn

Associate Director, Department of Surveys and Exhibits, Russell Sage Foundation

PITTSBURGH'S campaign for "Good Fare, Good Care and Fresh Air for Every Pittsburgh Baby," held early in the summer, had a somewhat obvious but frequently ignored idea as its keynote, namely, that responsibility for the right care of babies rests upon the whole family and not solely upon the mother. In other words, the Pittsburgh Baby Week, celebrated June 27 to July 3, was for the education of fathers, brothers and sisters as well as mothers. There was some special event or special message for each of them.

The campaign was initiated by Dr. J. F. Edwards, director of the Department of Health, who acted as general chairman, and Dr. H. J. Benz, superintendent of the Bureau of Child Welfare. Mrs. Enoch Rauh headed the citizens' committee that brought together hundreds of workers to carry out the elaborate program of exhibits, talks, motion pictures, excursions and widespread publicity, designed to arouse Pittsburghers to the importance of saving their annual crop of 16,000 babies. The preparations, extending over a period of weeks, were carried out under the direction of Mary Swain Routzahn, of New York.

While every effort was made to bring home to the community as a whole that it is sound civic economy to reduce the sickness and death rates among babies, much of the appeal was made very directly to the members of families.

For the Father

Fathers were honored by the setting aside of a Father's Day—when a Message to Fathers was published in the newspapers and distributed to men in shops and in meetings held in various parts of the city. This

"Message," telling some of the things that fathers should understand or do, was introduced as follows:

"Tradition has, in the past, left all the care of the baby to the mother. The conditions of our present-day society require that, in addition to providing food, shelter and other material things, the father must share with the mother the responsibility of the health of his baby. He cannot, of course, take the place of the mother, but he can do many things that would help the mother both in the care of her baby and herself."

The message continued with a very practical list of the things that fathers should know and do, ending with this appeal to fathers to be better citizens:

"Lastly, he (the father) should know of and take an active part in promoting conditions in our city which will give the other father's baby as well as his own a better chance. Some of these things are better housing, improved municipal sanitation, improved milk supply, milk stations and visiting nurses, settlements, nurseries and other agencies for the protection and conservation of infant life. He should know what his own Health Department is doing—that the Bureau of Child Welfare of this Department

maintains eight milk stations throughout the year and twenty during the summer months, with ten doctors, fifteen nurses and twenty assistants in attendance, who supply milk and give instructions both at the stations and in the homes to families who otherwise would not be able to avail themselves of good milk and helpful advice for the baby."

For Brothers and Sisters

For brothers and sisters there was also a special day and a message. In advance of Baby Week, printed letters were sent by the committee to the school children of the entire city. Among other things they were told what Baby Week was for:

"It is to make everybody, old and young, think about the best things to do for babies and learn more about how to keep them well.



HAPPY BABIES



**THIS BABY IS CROSS,
BECAUSE HE IS**

Fed too much
Nursed every time
he cries

Given candy ice cream
or bananas

Dressed too warmly

Needs a bath
Troubled with "summer
complaint"

Wet and soiled

Kept up too late

Rocked or bounced

Taken to the movies

Given a "sucker"

Quieted with a "soothing
syrups"

Compelled to sleep in a
hot overcrowded room
with windows shut



**THIS BABY IS HAPPY,
BECAUSE HE IS**

Fed properly
Fed at regular
intervals

Given boiled water
to drink

Dressed to suit the weather

Bathed daily

Regular in bowel
movements

Kept dry and clean

Allowed plenty of sleep

Not overhandled

Not taken "everywhere"

Not a "sucker"

Given no "dope"

Given plenty of fresh
air

WHICH WAY DO YOU BRING UP YOUR BABY

BABIES' SORE EYES



A few days old

Eyes { Red
Swollen
Discharging



Three days later

BLIND

It was not the light in baby's eyes
and

It was not cold that made his eyes sore
IT WAS A DISEASE GERM

Some of the germs that make babies eyes sore

Magnified many thousand times



Gonococcus



Streptococcus



Pneumococcus

Babies' Sore Eyes can be prevented and
by prompt treatment
THEY ARE CURABLE

Adapted from N.Y. Census for the Prevention of Blindness poster

WORKING MOTHERS



This baby's mother worked
until the time it was born
(Hard home work is as
bad as hard factory work)



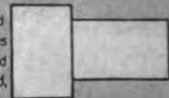
This baby's mother stopped work
two weeks before it was born

AT LEAST TWO WEEKS REST
before birth for the mother means
HEALTHIER BABIES
and later
HEALTHIER MEN AND WOMEN

DAIRY AND MILK INSPECTION

DEPARTMENT OF PUBLIC HEALTH SCORE CARD

By means of this card
records kept of conditions
under which milk is produced
If a dairy falls below standard,
its milk is not allowed to
be sold in Pittsburgh



SCORE CARD RECORD COVERS

- 1 Feeding of cows
- 2 Health of cows, physical examination, also
approved tuberculosis test within one year
- 3 Stabling of cows
- 4 Stable location, construction, drainage and
provision for comfort of cows
- 5 Stable cleanliness
- 6 Stable ventilation, light and air space
- 7 Condition of barnyard, drainage and removal of manure
- 8 Location, construction and cleanliness of milk room
- 9 Kinds of milking utensils and cleanliness
- 10 Facilities for washing and sterilizing
- 11 Cleanliness of cows and absence of other animals in stable
- 12 Methods of milking, cleaning udders, dry hands,
discarding foremilk
- 13 Special clothing for milker
- 14 Cooling and storage of milk
- 15 Icing during transportation

If you keep your eyes and ears open that week you will hear about babies, in the street cars, nickelodeons, churches, parks, stores and newspapers."

The children were asked to fill out and return an attached slip if they had baby brothers or sisters at home. To more than 10,000 of the boys and girls who sent in their names a postal card with the following message was sent by Dr. J. F. Edwards:

"My dear little Friend:

I have your note from school and am sending you this reminder of Baby Week. While you are having a nice vacation, don't forget your baby brother or sister. You can help mother keep the baby well during the summer. Babies are like flowers; they grow best when they have fresh air and sunshine. You can help mother to keep baby outdoors in good weather. Babies cannot eat the same food as boys or girls. Don't give the baby candy. It is fun to play with the baby—but they are not toys and must not be handled roughly. You can help baby to have his nap every day, for babies need lots of sleep. Will you write to me next fall and tell me what you did for your baby?"

The sisters of babies who belong to the Little Mothers' Club, organized by the Child Welfare Bureau nurses, were given an outing on Brothers' and Sisters' Day, and the newspapers carried stories of some of the achievements of these little workers for better babies.

For the Mothers

Every day was, of course, Mothers' Day, although one special day was set aside for an outing for the mothers who bring their babies regularly to the milk stations of the Health Department. There were meetings for the mothers in the eight district campaign centers scattered over the city, and thousands of pamphlets on the care of the baby were distributed. To mothers whose babies had been registered with the Health Department, Boy Scouts delivered gay little banners bearing the Baby Week emblem, together with envelopes containing Baby Week programs and this message:

"The city of Pittsburgh presents you with this flag and asks you to display it in your window in honor of your baby. All homes where there are babies will receive flags to show that all Pittsburgh is thinking and working for the best chance for the babies."

For the Babies Themselves

For the babies themselves, there were plenty of things to make them crow and

gurgle with delight. In store windows all through the business district, there were attractive displays of clothing outfits for baby; accessories for his bath, toys for him to play with, and equipment and furnishings for the nursery. Some of the babies were honored by receiving as visitors a large delegation of citizens, headed by the Mayor and members of the City Council, who made a round of visits to milk stations and settlements. The men of the party were photographed, each in the group bearing a borrowed baby in his arms.

Motion Pictures and Plays

One means of making sure that homes of babies were reached, was the use of district centers in the most congested parts of the city, with local committees in charge of meetings and distribution of literature in each district. Through the generosity of the city and of the motion picture men, band concerts and motion picture programs were given in parks in the various sections supplementing the meetings held at the district headquarters. Committees from these centers also organized parties to attend the Baby Week exhibition.

The central feature of the week was this exhibition, held on portions of three floors of the Wabash Railway station. The contrasting kitchens and bedrooms of the "Do Care" family and the "Don't Care" family aroused much interest. A special exhibit of panels and moving devices on the care of the baby was prepared for the occasion and will be used throughout Pittsburgh during the coming year. These exhibits were planned and constructed under the direction of Walter Storey, of New York.

A delightful feature of the exhibition was the daily presentation of two little plays written and staged under the direction of Mr. G. W. P. Baird, entitled, "The Narrow Door" and "The Theft of Thistle-down." With beautiful staging these little plays provided an attractive setting for baby welfare propaganda. Children from Irene Kaufman Settlement and Woods Run Settlement took part in the plays.

As a part of the follow-up work of Baby Week, it is planned to hold a baby improvement contest extending over a period of four months. Many babies were entered for the contest during Baby Week.

Some of the experiences of the Pittsburgh committee in carrying out its Baby



SCENE FROM "THE THEFT OF THISTLEDOWN"

Week program may prove helpful to other cities planning similar campaigns, especially in regard to the pitfalls to be avoided. Owing to a series of unavoidable hindrances, the preparatory work, including the selection of directors, was delayed, so that committees had to be formed hurriedly and preliminaries of organizing and financing were not altogether disposed of before the rush period was at hand. All of those interested agreed that fully three months were really necessary to carry out work that was attempted in six weeks.

Baby Week in Pittsburgh came late in the season, after the schools had closed, organizations had disbanded for the summer, and many people had left the city. This proved a handicap in carrying out the campaign ideal of actual community-wide participation.

In view of the season of the year, when large numbers of people cannot be drawn

to a central point for even popularized forms of education, the committee had added reason for making the central exhibition but one feature of the campaign. Those who made the journey across the city to visit the exhibition were only a very small percentage of the people who shared in Baby Week through features which touched their homes or the neighborhoods in which they lived.

EDITOR'S NOTE.—It is announced that the Civics, Home Economics and Public Health Departments of the General Federation of Women's Clubs, in coöperation with the Federal Children's Bureau, are to have a Baby Week, held over the entire country, March 4-11. Each civic club willing to devote that week to work for the babies of the country should send a letter or postal addressed to the Children's Bureau, Washington, D. C., "Attention of Mrs. Goodwin" asking for the directions and assistance which will be furnished free from that office.

The National Association for the Study and Prevention of Tuberculosis (105 East Twenty-second Street, New York City) will print in the November issue of the *Journal of the Outdoor Life* the two Pittsburgh Baby Week plays, "The Narrow Door" and "The Theft of Thistledown."

It is important to remember that at least two months will be needed for preparation for the Baby Campaign, and in order that work may begin promptly on January first, it is expedient that the local clubs should communicate with the Federal Children's Bureau not later than December fifteenth.

Progress of the City Manager Plan

Editor's Note

In the June issue of THE AMERICAN CITY was published the result of an extensive survey upon the subject of the city manager plan of government. The article contained the portraits of twenty-nine city managers, with a short biographical sketch in connection with each and a summary of reports from sixteen other cities which had inaugurated the city manager idea or had voted to do so, covering in all forty-five cities. The survey has been continued and a report is herewith submitted covering four

new cities, with portraits of the city managers and more recent information, including portraits, relative to three cities which were mentioned in the June article.

There are also data in regard to twelve cities in which the city manager idea has been adopted, effective at a later date, or in which only meager information in regard to the city manager was received.

The cities in both groups are listed in the order of their size, the largest one in each case being placed first.



FRED M. LOCKWOOD
San Diego, Cal.

SAN DIEGO, CAL.—Fred M. Lockwood was appointed Manager of Operations of San Diego on May 6, 1915. Salary, \$6,000 per annum. He is 47 years of age. Mr. Lockwood began his engineering career as a stake boy on the surveys of a railroad projected from San Diego to Yuma, and gradually climbed through the positions of rodman for one company, and chainman and engineer for another, to a place as assistant in the city engineer's office of San Diego. He then became engineer of the sewer department of that city, advancing in 1913 to the position of assistant superintendent of the

department, which position he held until chosen for the newly-created office of Manager of Operations.

A recent amendment to the San Diego charter took away from the five members of the Common Council nearly all but legislative duties and powers and created an Operating Department, the executive head of which was called the Manager of operations. In his charge have been placed the water system, sewer system, the streets, public buildings, harbor work, all municipal engineering, city lands and street trees. The Manager of Operations has an assistant, who is an architect and has occupied the position of Building Inspector. The latter receives \$4,500 per annum.



BAKERSFIELD, CAL.—Wallace M. Morgan was appointed City Manager of Bakersfield on May 17, 1915. He is 47 years of age. He is not an engineer and does not claim to be a specialist in any line of work with which his duties bring him in contact, but 12 years' service as newsgatherer, editorial writer and managing editor of the *Bakersfield Morning Echo* has given him an intimate knowledge of local conditions and needs and of city affairs in



WALLACE M. MORGAN
Bakersfield, Cal.

general. The rush and variety of newspaper work and the necessity for handling a multitude of dissimilar matters in a short space of time are the preparation which Mr. Morgan has had for his present work.

The city of Bakersfield is operating under a charter providing for seven councilmen from the seven wards into which the city is divided. They appoint one of their members president, and he holds the title of Mayor. The Council appoints the City Manager, whose term of office is at the pleasure of the former.

PHOENIX, ARIZ.—Robert A. Craig was appointed City Manager of Phoenix on March 15, 1915. Salary, \$5,000 per annum. He is 33 years of age. Mr. Craig is a graduate in mechanical engineering of the University of California. He has officiated in succession as superintendent of the Phoenix Railroad Company and the Phoenix Water Company (combined); as superintendent of the Phoenix Municipal Water Works; as a citizen-member of the Territorial Board of Control of Arizona, in charge of state institutions and highways. He later engaged in private practice of engineering and contracting, and also became principal stockholder of the Motor Supply Company, a merchant corporation operating a chain of stores in Arizona.

The Phoenix charter provides for a Commission to consist of a Mayor and four other members, elected by the voters at large. The City Manager is appointed by and holds office at the pleasure of the Commission. He is the executive head of the city and has charge of all departments; he appoints the department heads with the approval of the Commission.



ROCK HILL, S. C.—J. G. Barnwell was appointed City Manager of Rock Hill on February 1, 1915. Salary, \$2,400 per annum. He is 31 years of age. Mr. Barnwell's experience has been in the line of the management and construction of municipal public utilities—water, electric light, power and sewers—in which he was engaged for 13 years. He is an electrical and mechanical engineer.

The Rock Hill charter provides for a commission-manager form of government for that city, the Commission consisting of the Mayor and two Councilmen.



CHARLOTTESVILLE, VA.—A. V. Conway occupies the position of Mayor and Business Manager of Charlottesville. He officiated as Mayor for one year, from September, 1912. In September, 1913, the form of government was changed, and he was made Business Man-



ROBERT A. CRAIG
Phoenix, Ariz.



J. G. BARNWELL
Rock Hill, S. C.



A. V. CONWAY
Charlottesville, Va.

ager as well as Mayor, elected as such for one year, and re-elected at the end of that time for two years. Mr. Conway had been interested chiefly in mercantile pursuits during the greater portion of his life previously.

A Municipal Business Manager was provided for Charlottesville by ordinance. All the duties of an executive or administrative character which had been performed by the several council committees under ordinances in force before the creation of the new office are now required to be discharged exclusively by the Municipal Business Manager, the committees acting in an advisory capacity.



ST. AUGUSTINE, FLA.—Winton L. Miller was appointed City Manager of St. Augustine on August 3, 1915. Mr. Miller was with the Dayton Bureau of Municipal Research during the period when that Bureau was collecting the data from which information was prepared for publicity purposes that led finally to the adoption of the city manager plan and the reorganization of the Dayton city government. This work resulted in Mr. Miller's being chosen as executive secretary to Henry M. Waite, City Manager of Dayton. Previous to affiliating with the Dayton Bureau of Municipal Research, Mr. Miller had been for ten years city hall reporter for the newspapers of Dayton. The essential requirement for a manager in St. Augustine was felt to be executive ability and a thorough training in municipal work.

The St. Augustine charter provides for a Commission of three members, one elected each year, for terms of three years, on a non-partisan ballot, and they appoint the City Manager. He holds office at the pleasure of the Commission.



WINNETKA, ILL.—R. L. Fitzgerald was appointed Business Manager of Winnetka on January 1, 1915. Salary, \$2,400 a year. Mr. Fitzgerald is a graduate in mechanical engineering of Purdue University. He has served in the accounting department of the Houston



W. L. MILLER
City Manager, St. Augustine, Fla.

(Tex.) Gas Company, in the engineering department of the Gary (Ind.) Heat, Light & Water Company during the construction of public service plants in that city, and on the Joint Engineering Staff of the Wisconsin Railroad and Tax Commissions. Immediately previous to accepting the present appointment, Mr. Fitzgerald was employed by a firm of consulting engineers in Madison, Wis., making engineering investigations and reports of public service properties.

Winnetka is operating under a special charter granted by the state in 1863. The designation of the office of Business Manager was made by an act of the Village Council, which appoints the Manager.



R. L. FITZGERALD
Winnetka, Ill.

Reports From Other Cities

WHEELING, W. VA.—A city manager charter was adopted in May, 1915, to take effect in two years from the date of adoption. The governing body is a council composed of nine councilmen, one elected from each ward and one councilman-at-large. In addition to appointing the city manager, who must be a citizen of Wheeling, the council appoints the clerk, city solicitor, judge of the police court, chief of police, and the commissioners of municipal loans and bond issues. The city manager makes all other appointments and has supervision over all the departments.

SAN JOSE, CAL.—A commission-manager charter has been adopted, effective July 1, 1916.

ALPENA, MICH.—A new charter incorporating the city manager idea was adopted on September 1, effective in April, 1916. The charter provides for the election at large on a non-partisan ballot of a mayor, four councilmen, a municipal judge, one justice of the peace, and two constables. The municipal council appoints a city manager, city treasurer, city clerk, assessor, city attorney, and health officer. All the appointments made by the municipal council are for one year, but the city manager may be dismissed at any time upon sufficient cause.

SANTA BARBARA, CAL.—The new charter adopted in Santa Barbara in September is effective in October, 1917. It provides that all the powers of the city be vested in a council of five members, which elects from its own membership a presiding officer known as the mayor. A city manager is appointed by the council, which also appoints the clerk, treasurer, auditor, assessor, tax collector, police judge, boards of park and water commissioners, library trustees, board of education. The following are appointed by the city manager: purchasing agent, engineer, superintendent of

streets, superintendent of water distribution, chief of police, chief of fire department, board of health, and inspector of buildings, also the city attorney, the latter with the approval of the council.

SAN ANGELO, TEX.—Adopted a commission-manager charter in August of this year, effective April, 1916.

BENTON HARBOR, MICH.—The city council recently passed an ordinance creating the office of city manager after two elections in which the commission-manager plan had been submitted to the people and failed to carry. At the present time council committees and committees of the Chamber of Commerce are working for a general charter revision, on which it is expected that an election will be held at the next municipal election, in the spring of 1916.

JOHNSON CITY, TENN.—The form of government here is similar to that in Staunton, Va. The governing body consists of eight aldermen and a Mayor, with a City Manager in charge of the operating departments of the city. The last-named official has, until the passage of a recent ordinance, been styled "City Commissioner." The Board of Aldermen elects all executive officials except those minor ones chosen by the Manager. Mr. P. F. McDonald is City Manager.

ELIZABETH CITY, N. C.—A commission-manager charter is reported to have been in operation in Elizabeth City since April, 1915.

WEBSTER CITY, IOWA.—The city manager plan was adopted on August 30 last by a vote of more than two to one. The first election of councilmen under the plan took place on October 11, when they appointed a city manager.

THOMASVILLE, N. C.—The city manager form of government was adopted on July 1, 1915. A new charter provides for the election at large of a Mayor and five Aldermen, who constitute the City Council, and for the appointment by them of a City Manager. He is the administrative head of the city government and his term of office is at the pleasure of the Council. Frank D. Jones is City Manager.

WESTERVILLE, OHIO.—The commission-manager plan was adopted by a large majority on July 31 and becomes effective January 1, 1916. The plan provides for the election of five commissioners, one of whom shall correspond to the present mayor. These five commissioners choose a city manager, who has charge of all municipal operations, improvements and properties.

HORICON, WIS.—This city employs a City

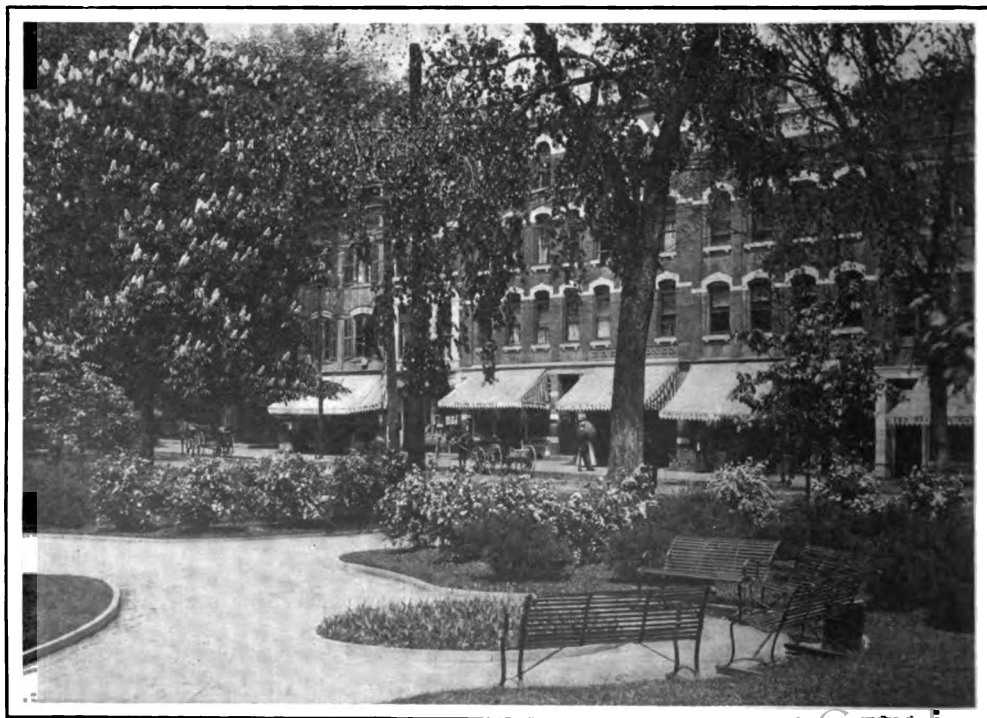
Auditor, objection having been made to the use of the term "city manager" as being too broad. He serves under an ordinance providing for his appointment by the mayor. The state laws make obligatory the election of a mayor, six aldermen, city clerk, city treasurer and city assessor, but the salaries of those officers were placed so low that none could afford to devote sufficient time to his duties, and the office of city auditor was created in order that some one person might be held responsible for the execution of the work supposed to be performed by those officers. By mutual agreement, therefore, between the mayor and other officers and the City Auditor, the latter is understood to have supervision of the work in all of those departments. His salary for the first year was made \$1,000. E. C. Rehfield is City Auditor.

An Oasis in a Business Section

The spectacle of a once-delightful old residence trying to hold its own against the encroachments of business is one common to many growing cities. The usual successor to these old houses—with perhaps a fine tree or two which might be the beginning of an attractive public square—is most apt to be a stone or brick structure which adds to the strongholds of commerce, but helps to

stamp with fatiguing monotony the business section of the town.

A refreshing exception is the breathing space of about half an acre, located in one of the busiest sections on Main Street, in Northampton, Mass., which now replaces the old homestead seen in the illustration. Hiding behind a huge elm tree, as if trying to escape from the unbroken line of brick



THE MAIN STREET ENTRANCE TO CENTRAL PARK, NORTHAMPTON, MASS.



TWO VIEWS IN CENTRAL PARK, NORTHAMPTON

The upper one shows the pergola with its flower-boxes; the other includes the Clarke Library and Memorial Hall, and, at the right, the old elm tree



stores facing it from the opposite side of Main Street, and from the wearying stream of traffic, the one-time quiet home looked out in the rear upon a gas plant, and upon a public dump, where, emptied over a sharp descent, ashes gave up their dust and bottles and tin cans rattled downward.

To unimaginative minds this environment suggested few possibilities in the way of a park, nor was the need of one in a busy down-town section evident to the majority. Such an undertaking, however, was promoted to success by the City Improvement Committee, through its chairman, Christopher Clarke, City Forester, aided by liberal-minded citizens who contributed about \$26,000 of its entire cost, the city paying the remainder of \$21,000. Hon. T. M. Connor, then mayor, raised the largest amount of money obtained by subscription, and gave active service in bringing the enterprise to a successful conclusion. The land was bought for \$34,000; grading and other improvements cost \$13,000. At the rear a retaining wall was built at an expense of several thousand dollars by Mr. Frank Lyman and his sister, Mrs. Alfred T. White, who together gave also a valuable lot of land in the rear of the municipal theater on the new South Street Boulevard. The purchase and removal of the old home referred to, and another dwelling, as well as the old Boston and Albany stage barn, which had been used as a livery stable, gave place to one of the most beautiful small parks in the state, known as Central Park, and formed a fine, deep, continuous lawn in front of the public buildings for nearly a quarter of a mile. When the old City Hall is removed it will add about 80 feet to this stretch of front lawn, thus carrying out a city-planning idea which Mr. Clarke has held for many years.

At the rear of Central Park were planted a large number of quick-growing Lombardy poplars, which soon concealed the worst features of the gas plant and the barren plot once utilized as a dumping ground. A wistaria-covered pergola with cement flower boxes built on the walls supporting the columns and containing a profusion of



THE OLD ELM TREE AND ITS SURROUNDINGS IN 1887

scarlet geraniums, combines with the poplars to produce a striking effect, equally attractive in the bright sunshine and in the summer moonlight, when the down-town population flock to the park to sit on the comfortable settees or stroll over the gravel walks. A large flower bed occupies the center of the park near the great elm, and barberry bushes, beautiful in winter and summer alike, border the walks. In one section is a bubble drinking fountain which is much patronized.

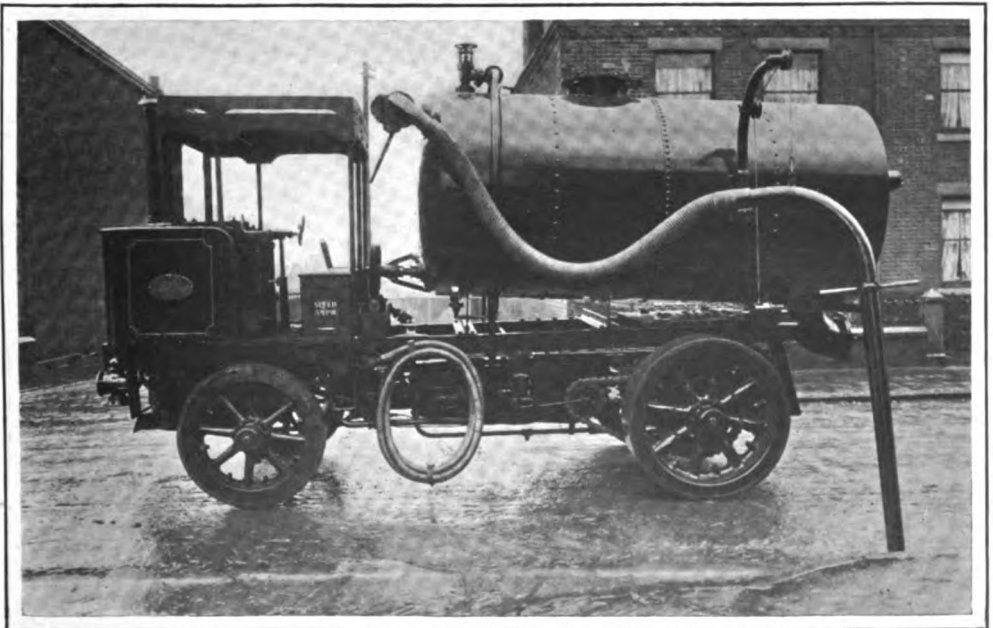
Since the completion of the project several years ago, the taxpayers have indicated their approval of the citizen whose efforts made this breathing space and pleasure spot in the heart of the business district a reality by creating a permanent board of park commissioners with the promoter of Central Park as its dean.



American and English Types of Motor Trucks for Municipal Service

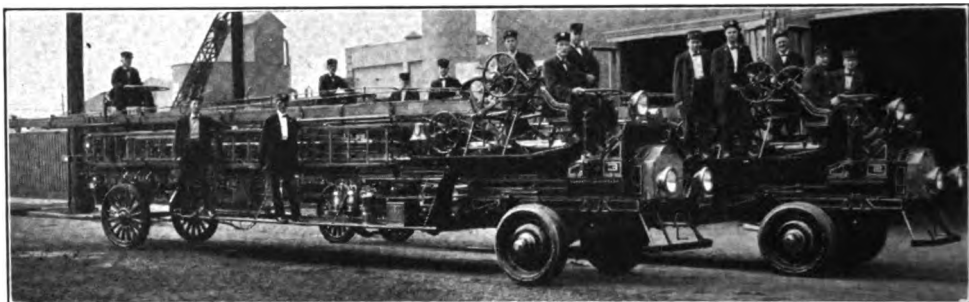


**GENERAL MOTORS ELECTRIC FLUSHER USED BY THE DEPARTMENT OF STREET
CLEANING IN TORONTO, ONT.**



THE LEYLAND MOTOR VACUUM CLEANER FOR CATCH-BASINS

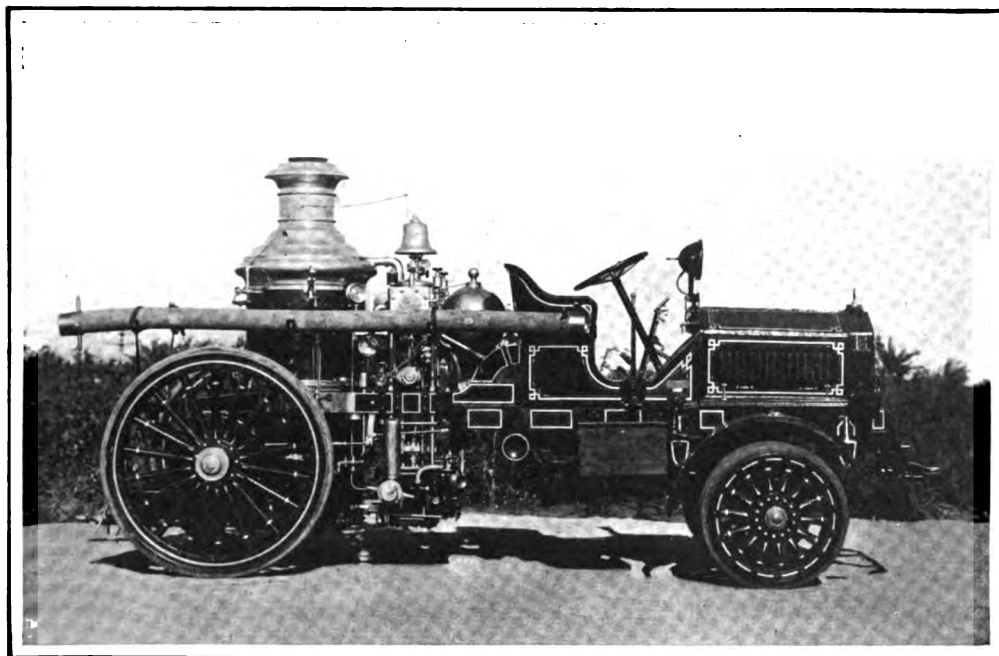
Motor Fire Apparatus in Use in Various Fire Departments



AMERICAN-LA FRANCE 75-FOOT AERIAL TRUCK OWNED BY THE FIRE DEPARTMENT
OF DAYTON, OHIO



LIPPARD-STEWART FIRE TRUCK, WITH FIRESTONE TIRES, IN USE IN WELLSVILLE, N. Y.



PHILADELPHIA STEAM FIRE ENGINE EQUIPPED WITH BOYD TRACTOR



SAN FRANCISCO COMBINATION FIRE TRUCK EQUIPPED WITH GOODYEAR CUSHION TIRES

Fire Prevention Versus Fire Extinguishment

A Method of Employing the Spare Time of Permanent Firemen

By William Brophy

Secretary, Fire Chiefs' Club of Massachusetts

TO one who has spent the best years of his life in the fire service, it would seem that the permanent members of fire departments have an abundance of physical exercise in the performance of their arduous and dangerous duties, particularly in the business and manufacturing districts of our larger cities and towns. On account of the rapid introduction of motor fire apparatus, the permanent men are spared considerable labor formerly spent in caring for the fire horses, and are living in more healthful quarters, free from the disagreeable odors and flies that are found in stables. It is certainly desirable to keep the men in the best possible physical condition, both for their own welfare and that of the communities they serve, and I believe it can be done in a way that will satisfy the most exacting taxpayer.

The Increasing Fire Hazard

A large proportion of our buildings are constructed of wood. Steam, hot water and hot air heating add to the fire hazard in these and all other buildings. From the business and manufacturing districts of nearly all cities wooden buildings are excluded by municipal ordinance or state laws, but many of the structures in such sections have nothing that might be called fire-resisting in them other than the outer brick or stone walls, and many of the roofs are covered with wooden shingles, one of the best agencies for the spread of fire. The introduction of freight and passenger elevators has made it possible to increase the height of buildings, limited only by the character of the material used, while the introduction of structural steel makes it possible to carry buildings to almost any height desired.

Owing to such conditions, we have sustained greater loss of property by fire, and of human life as well, than any other civilized country in the world, and as a result we are taxed more for the equipment and

maintenance of fire departments than would be necessary under proper conditions, and our fire-fighting force is much greater than the combined force of several of the countries of Europe.

For many years the manufacturers of fire apparatus have tried their best to keep pace with the architects and builders who were continually increasing the height of buildings, but with the introduction of steel frames they had to give up in despair the struggle for the protection of many of the modern buildings; for, if not strictly fire-proof, unless private equipment is installed therein the fire department must in most cases wait until the upper portions of such structures burn down to where water towers and aerial trucks can reach the fire. Water must be poured directly on to any fire in order to extinguish it, unless some other means, at present unknown, is provided.

Is it not time to begin the sane and sensible plan of preventing fires by removing their causes?

Who Pays the Insurance

The practice of insuring property against loss by fire is almost universal, and the amount of fire insurance carried is enormous. Fire insurance companies do not pay the losses sustained by their policy holders; they are simply the disbursing agents of such policy holders and pay out of the sum total received a partial reimbursement to those who have suffered losses by fire, retaining, of course, a sufficient, and perhaps a liberal, amount to pay for the transaction of the business. The people at large pay the losses on property that is not wholly covered by insurance and on that which is not insured at all. Insurance must be high enough to pay the losses sustained and must vary with the annual amount of such losses. Increase in insurance rates must follow sweeping conflagrations or steadily increased losses by fire, and this increases the additional burden on the entire population.

Fire insurance is as necessary as our banking system; without it the wheels of industry would soon come to a standstill.

Disregarding fires caused by incendiarism and lightning, 95 per cent of all fires that cause the destruction of property are preventable. They would not occur were it not for gross carelessness and utter indifference to the ever-present danger from fire, particularly on the part of those whose property is covered by insurance. Once a policy of insurance is secured, the owners of the property seem to feel that they are relieved from all responsibility for its safety from fire, and it is too often the case that they do not take even the simplest precautions against it.

Fire Prevention Legislation

In the effort to prevent fires rather than to extinguish them, the people must act as a whole, and they should be first shown how and then made to do it. An attempt in this direction is the passage of the "Fire Hazard Bill" by the Massachusetts Legislature, which calls for the appointment of a Fire Prevention Commissioner at a salary of \$3,500 a year. The bill applies only to the Metropolitan District, comprising 25 cities and towns, including Boston. Other cities and towns in the state can come under the provisions of this bill if the voters so decide. The bill barely squeezed through the 1914 Legislature, and was badly mutilated during its passage.

The results obtained under the provisions of this law for the first twelve months of its enforcement are noteworthy. The number of fires has been reduced from a monthly list of from 300 to 400, to 100 per month. The fire loss has decreased \$2,000,000. Fire alarms have been reduced from 5,800 to 4,900 per month, not including the month of March of this year, which was unusually dry, and during which grass fires caused an unusually large number of alarms.

During the first year of the Fire Prevention Department's existence, much time was spent in its organization. That work is now completed, and with the perfect understanding and coöperation between the Commissioner and the chiefs of fire departments, much better results must be obtained. The wisdom of this legislation (which might be improved) has been demonstrated beyond a doubt, and its provisions should be extended to the rest of the state of Massachusetts.

If the chiefs of fire departments, first in the Metropolitan District and later in the entire state, were vested with the authority given the commissioner; if from their number a committee was selected to draw up rules and instructions to be given to the public, finally approved by the entire body, and enforced if need be; if the tenure of office of these men was made as secure as that of the officers of the army and the navy so that they could act without fear or favor—the annual fire losses would decrease to proportions never dreamed possible. Here is where the permanent members of fire departments can be used to the great advantage of the public—in making intelligent and rigid examinations of all buildings and in rendering reports on which valuable instructions could be based. At first it would be necessary to add to the permanent force, but the time would surely come—and quickly—when this work of fire prevention would result in a smaller force of firemen, less necessary apparatus, and, best of all, fewer fires.

Over-insurance is an incentive to incendiarism, and in many cases is effected with that end in view. For over-insurance of property by any agent or broker the penalty should be both fine and imprisonment, and the license to do an insurance business should be revoked. This is a most effective way to end the practice of over-insurance, which the companies claim they cannot prevent, and the crime of arson would then be rare indeed.

To educate the people to a realizing sense of their duty in the matter of fire prevention is a slow and tedious process. The truth will have to be driven home to them with a club, and perhaps this would be a good form for such a weapon: When fire occurs on premises or property that is insured, and if the fire, by the exercise of reasonable care, could have been prevented, the insurance policy should be rendered void. If, however, adjoining property is damaged as a result, either by fire or water, the insurance in force on the property where the fire originated should go to indemnify the owner of the adjoining property to cover the loss not covered by insurance. In case there is no insurance on the property in which the fire originated, then a heavy fine should be imposed for the neglect which caused the fire.

The National Board of Fire Underwriters

spends thousands of dollars annually in making inspections and surveys of municipal fire departments, fire alarm systems and water-supplies, the results thereof being submitted in reports made to the municipal authorities. These reports contain wise and otherwise suggestions and recommendations to which, in the majority of cases, little heed is paid, particularly if they

involve the expenditure of a considerable amount of money or run counter to the views of the men who know the fire protection needs of their towns and cities—the chiefs of fire departments. I would suggest to this national body that a part of the money spent for these surveys and inspections (or, better, all of it) be used in co-operation with others in fire prevention.

A Water Supply Investigation for Corning, N. Y.

By Henry W. Taylor

Consulting Engineer, Albany, N. Y.

THE present water supply of the city of Corning is taken from a ground water source at a point below the city. The supply has always proved adequate and has always been of excellent physical characteristics, except as to its hardness. It, however, has been subject to violent invasions of intestinal bacteria which have shown their effects in pronounced epidemics. Periodic outbreaks of typhoid fever, etc., have generally followed high water conditions in the river and have been of such importance as to warrant a full investigation of the present supply.

The water pumped to the distributing reservoirs is collected in a concrete impounding basin east of the city. It was rumored that this supply was fed, in large measure, by springs, and the adequacy of the supply and its action during dry weather confirmed these popular opinions. The attitude of the writer from the beginning of this investigation was that, providing the development of the present supply proved feasible as compared with alternative projects, this supply should be suitably treated biologically, and, if possible, protected from occasional pollution in addition to this treatment. In case the work of protecting the supply did not prove feasible, the treatment alone should be such as to be perfectly reliable.

In studying the present supply, the following questions had to be answered:

1. Is the present supply derived from two different sources, one water coming from a deep-seated source and less liable

to accidental pollution, while the other is a shallow ground water which is extremely liable to accidental pollution?

2. If it should be found possible to eliminate the shallow ground water and prevent it from mixing with the purer water from a deep-seated source, would there be a sufficient supply from this deep-seated source to meet requirements?

3. In case the shallow ground water could be eliminated without impairing the quantity of the remaining supply, is there, within a practicable depth, a stratum of clay or other impervious material into which a cut-off wall could be extended?

It was at once noted that when the water level in the impounding basin was lowered four or five feet, there was a violent spring action in a small area of the center of the basin, indicating a vertical flow in this section. In an area about 50 feet square, small water spouts developed as a result of this spring flow, whereas in other sections the inflow was evidently in a horizontal direction, flowing underneath the walls of the basin. Physical, chemical and biological analysis of the shallow ground water, and of the water which forced its way through the central area of the bottom of the basin, showed that the two waters had entirely different characteristics. The total bacterial count in the case of samples of water taken at the bottom of the impounding basin, under these spring flow conditions, was found to be 12 c.c., the water was much softer than the shallow

ground water and varied in other physical and chemical characteristics.

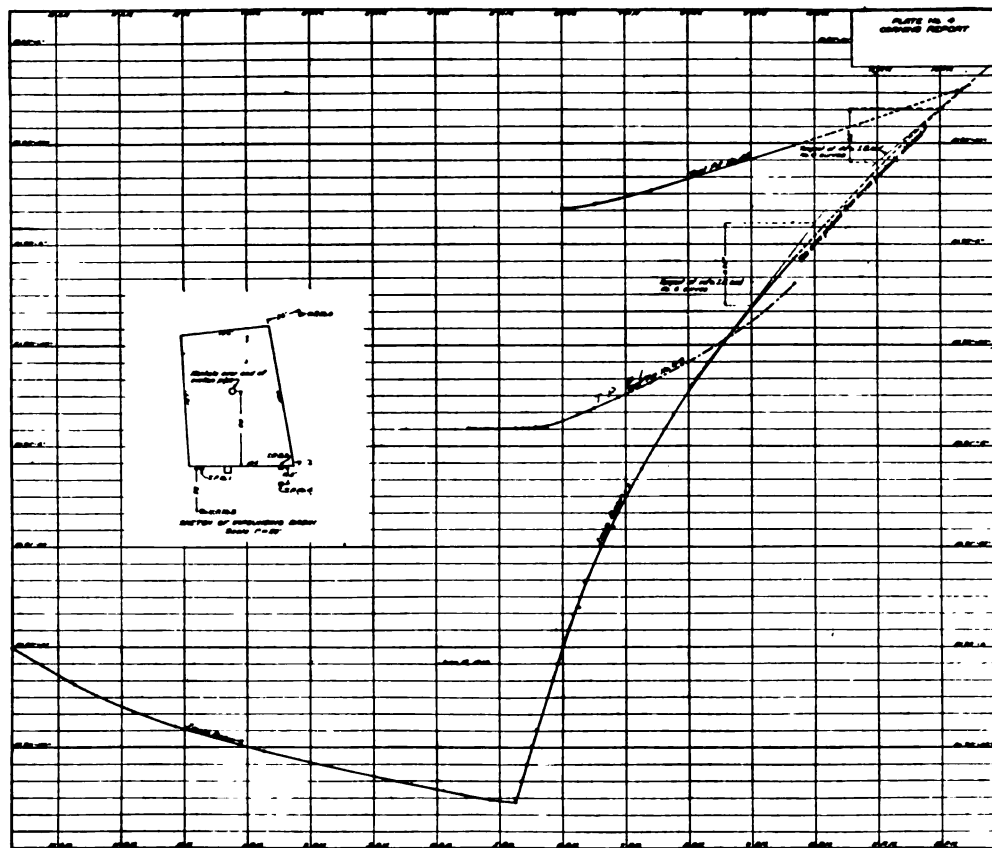
It was further noted that, in refilling, the water level in the impounding basin rose to an elevation higher than the water level in the ground surrounding the basin, indicating that the basin was being fed by a source of supply operating under a different head than the shallow ground water. This consideration, together with the various differences in the characteristics of the two waters, furnished ample proof of the vague theory of a dual source of supply, the quality of one of which was comparable to a spring supply.

It was then necessary to conclude that there lay, between the shallow ground water and the deep-seated water, some type of impervious stratum which made possible this difference in pressure; and, providing this stratum lay within a reasonable distance from the top of the ground, the shallow ground water could be cut off from the

impounding basin by a combination of sheet piling and concrete walls. However, such a system of exclusion of the shallow ground water might impair the adequacy of the supply, and the investigation of this point was of special hydraulic interest. The problem consisted in determining the yield of the springs in the bottom of the reservoir under conditions which permitted of the mixing of this spring water with the shallow ground water.

Hook gages were installed in the impounding basin and in test pits surrounding it, and readings were taken during the period of pumping and during the period of refill of the basin. After some of these data were obtained, it was apparent that the only theory which would yield conclusions not involving indeterminate factors must be based on the refill curves and on points of their intersection.

The accompanying chart serves to explain this method. As the water level in



WATER ELEVATION CURVES

the impounding basin rises, the water elevation curve of the basin intersects the elevation curves of the various test pits outside of the basin. At these points of intersection the water levels inside and outside the basin are the same, and consequently the areas outside the basin can be thus eliminated as contributory areas feeding water into the basin.

After the highest test pit curve has been intersected by the refill curve of the basin, it is apparent that the water in the impounding basin is as high as or higher than all the water surfaces outside of the basin; therefore, the rise in the basin water surface must be due to inflow from a source other than the shallow ground water.

Tangents to the refill curve of the basin at these points of intersection show the rate of refill from this secondary source. Subsequent experiments were made in such a way that these points of intersection of the curves occurred at different elevations, and a rough law of flow was determined for the inflow of water other than shallow ground water. This treatment of the matter is based entirely upon pure hydraulics, eliminates all the elements of the porosity of the soil and other indeterminate factors and is amply safe in its conclusions, since it ignores the apparent possibility of leakage outward from the basin to the exterior ground water.

The result of this determination proved conclusively, and without the use of other empirical formulæ or indeterminate estimates of questionable factors, that the spring flow amounted to over 2,500,000 gallons during a very dry season in the summer of 1914.

At this stage of the investigation the first two of the above-mentioned questions had been satisfactorily answered. The existing supply was found to be derived from two different sources, one being a deep-seated source and not liable to shallow ground water pollutions. It was also found that the supply being derived from this deep-seated source was of ample quantity. There still remained the problem of cutting off the shallow ground water from the impounding basin and preventing its admixture with the purer water from the deeper source of supply.

Test borings indicated that the impervious strata which must lie between the shallow ground water and the deep-seated

water, lay more than thirty feet below the surface of the ground, and it was considered that any attempt to sheet pile below this depth and tie into this strata would be unwarranted. The protection of the purer source of supply by means of a barrier around the impounding basin to exclude the shallow ground water was thus proved impracticable. An examination of the probable major cause of contamination of the supply led the writer to the conclusion that the existing supply was occasionally grossly polluted by a coarsely filtered sewage which leaches into the shallow ground water through one of the main outlet sewers. When the river is at its high stage this outlet sewer is placed under pressure. The leakage of this sewer, under these conditions, is amply demonstrated by the fact that, were it tight under pressure, certain streets in the eastern section of the city would be submerged by back water, which circumstance has never been noted.

Consequently, until the sewage pumping station should be installed, which will always prevent back-flooding of this trunk sewer, any attempt to otherwise prevent shallow ground water pollution in the vicinity of the impounding basin was thought of questionable expediency, and the protection of the better source of supply from periodic contamination was thought impracticable.

A Biological Treatment Required

Treatment of this supply was apparently proved to be the only method by which a consistently good quality of water can be obtained from this source. As has been stated, the water in its present condition is perfectly clear and colorless, and from a physical point of view filtration was in no way required. The treatment required is consequently of a purely biological nature, and hypochloride of lime, liquid chlorine and ultra-violet ray treatments were considered.

Due to the results which had already been obtained with hypochloride of lime treatment, this process was at once eliminated as a permanent measure. It was also feared that possible trouble might be experienced with liquid chlorine, due to rapid changes in the organic content of the water. The cost of installation of the ultra-violet ray apparatus proved to be a temporary objection to this process, due to the

existing financial resources of the city, and, after exhaustive discussion of the whole matter, the Board of Public Works has re-

cently authorized the installation of a liquid chlorine treatment plant, which is now in operation.

A New Type of Concrete Water Tank

The city of Bay Minette, Ala., has recently completed modern systems of sewage and water-works, and has the distinction of having included in the latter the first reinforced concrete tower and pressure tank of the White patent type. This tank is 110 feet high, original in design and construction, and has a capacity of 80,000 gallons. It stands about one-and-a-half blocks in the rear of the Bay Minette County Court House, as shown in the accompanying illustration. The contractors, the Concrete Steel Construction Company, of Birmingham, Ala., state that the unique design of the tank has attracted much attention and has been the occasion of many inquiries from municipalities contemplating water-works improvements.

It is pointed out that the cost of painting and otherwise maintaining a steel tank of similar size would be equal to the interest on at least \$1,000, and that this design would therefore be as cheap as the steel tank if its first cost was \$1,000 in excess of that of the steel structure, and that the saving would be further augmented by the long life of the concrete. The strength of this construction was severely tested soon after its completion by two heavy Gulf storms which visited that section, demolishing several houses and doing general damage. The wind pressure was said to be the greatest ever known on the Gulf coast, and the two occurrences furnished excellent evidence of the stability of the tank.



THE CONCRETE WATER TOWER IN BAY MINETTE, ALA., NEAR THE COUNTY COURT HOUSE

A Proposed Motor Bus Franchise

By Harry P. Nichols

Chief of Bureau of Franchises, New York City

THE Franchise Committee of the Board of Estimate and Apportionment in its report to the Board upon the pending petitions for the right to operate motor bus routes in the borough of Manhattan has recommended what is probably the most unique and complete franchise that has ever been considered by the authorities of the city of New York.

The Committee has in this matter been in a position to deal with a complete transportation system. This has not been the case in making other grants to transportation companies during recent years.

When the applications were first presented, the Board began its studies by first ascertaining, through its Bureau of Franchises, facts with reference to the experience of European cities in motor bus operation. The Committee then proceeded to apply this information to the needs of New York City. It was believed that the rapid development of the motor vehicle in passenger service in European cities and the increased popularity of the Fifth Avenue Coach Company's lines in New York placed the motor bus in the position of deserving recognition as a coming transportation facility. Moreover, it is well known that there are points in the city between which there is—although much needed—no direct means of public conveyance. The problem, therefore, was to supply the needed facilities by the most practical and comprehensive system of routes.

In laying out the system of routes, three principles were observed:

First. That the system should be a comprehensive one;

Second. That the system should contain certain routes giving facilities between various points where none now exist;

Third. That the routes should be such as to compete directly as little as possible with the existing transit systems.

The mobility of the motor bus makes possible one condition of the franchise, which, though equally desirable from the public standpoint in street railway grants, would be impracticable in such cases: this is the clause requiring, when need arises, *the sub-*

stitution of a new route for one originally granted.

Another condition imposed is that requiring *the operation of extensions or additional routes upon order of the Board of Estimate and Apportionment.* Traffic conditions are changing from day to day and the routes operated in the beginning may in a few years be those least adapted to such use. One has only to consider the changes which have taken place during the last few years to realize the desirability of such a provision.

The extensions to existing transit systems most desirable and most difficult to obtain are those in outlying districts, but without them the proper development of new sections is impossible. Franchises for such extensions must be for a long term of years, and the city is usually confronted with the argument on the part of an applicant company that the amount of earnings during the term of the franchise is uncertain, but that without doubt during the first few years the earnings will be little more than enough to pay operating expenses and not enough to pay interest on cost of construction, which for a street railway is considerable. To operate an extension to a system of motor bus routes requires comparatively little initial investment, and it is entirely practicable for the operator to accept a franchise containing conditions requiring extensions upon specific terms; it is not always practicable in the case of other transit facilities, and the city has not imposed such conditions in street railway grants to date.

In these respects the franchise now before the Board of Estimate and Apportionment is unique, and it is believed that, if it is granted, its operation in future years will prove to the public the importance of these provisions.

There are other provisions of the proposed grant which are also highly advantageous to the traveling public, but which cannot be described in brief.

Copies of the report may be obtained of the Bureau of Franchises, Municipal Building, New York City.

Items of Municipal and Civic Progress

A Municipal Song for Baltimore

The Mayor of Baltimore, Md., the Hon. James H. Preston, announces the offer of \$250 in gold for the best original musical setting of the prize poem on Baltimore, by Folger McKinsey, to be used as the municipal anthem. The judges of the competition will be: Harold Randolph, Director of the Peabody Conservatory of Music; Henrietta Baker Low, former Supervisor of Music in the Baltimore public schools, and John Itzel. The competition closes December 1. For information as to its rules, address the Municipal Song Contest, care of Frederick R. Huber, Peabody Institute, Baltimore, Md. The prize poem follows:

BALTIMORE, OUR BALTIMORE!

Baltimore, where Calvert flourished
And the stately Carroll came
Here the old defenders thundered
As they charged in battle-flame.
Here the starry banner glistened
In the sunshine of the sea,
In that dawn of golden vision
That awoke the song of Key:

Here are hearts that beat forever
For the city we adore;
Here the love of men and brothers—
Baltimore, our Baltimore!

Here the clipper ships of glory
Brought the cargoes of their day
From the ports of seven oceans
Homing white-winged up the bay.
Here immortal Poe illumined
Living letters with his lyre;
Here Lanier's uplifting measures
Taught the world a fresh desire:

Here the tradesman and the statesman,
Here the gallant hearts of yore,
Came to found a beauteous city—
Baltimore, our Baltimore!

Here the charm of parks and gardens,
Here the spirit of the home,
Here the music of the morning
In the wind across the foam.
Here the teacher and the prophet,
Here the sermon and the song,
Keep the higher beauty burning
And the nobler purpose strong:

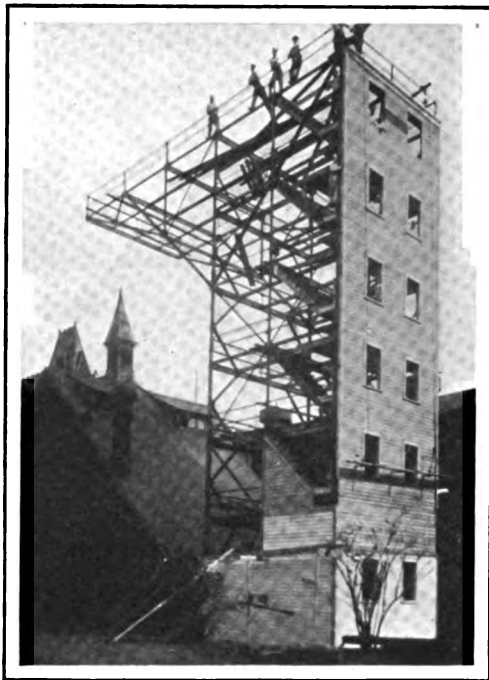
Here the church and here the temple,
Reared amid our bloomy lore;
Here the Science wed with Healing—
Baltimore, our Baltimore!

God of grace, thou great Jehovah,
Make us grateful, keep us true,
That these gifts of light and leading
May enchain our hearts to you;
That in spiritual vision glowing
Men behold along the gleam
How a righteous city blossoms
In the golden years of dream:

Here our halls of Art and Learning,
Here the dust that Rinehart wore;
God to guide, and man to worship—
Baltimore, our Baltimore!

Pittsburgh's Training School For Firemen

PITTSBURGH has opened its school for firemen. Hereafter every man in every fire company in the city will be required to demonstrate his fitness for his work, or be dismissed. Work on the



Courtesy of Pittsburgh Industrial Development Commission

THE PITTSBURGH TRAINING TOWER

training tower in Neville Street is completed, and tests began on October 1. The tower is a six-story building, ninety feet high. The school is under the personal supervision of Fire Chief James F. Richards, Police and Fire Surgeon D. E. Sable and the district chiefs. Actual instruction in modern fire-fighting and other hazardous work entailed thereby will be under the direction of Captain James Kane, Fireman Alva Foster and Dr. Sable, all of whom spent a month in the New York school of instruction. Ladder and hose drills, rescue work and instruction in pulmotor application are among the first lessons taught. There is keen rivalry among the various fire companies to make the best showing.



Packard

NEW TYPE CHAINLESS TRUCKS are all-purpose trucks for municipal service

They meet the diversified hauling needs of the city, with a combination of advantages not found in any other carrier. They are swift and active in traffic, for police or hospital service; they are strong and serviceable for the transportation of materials for paving and like heavy loads.

Packard New Type Chainless Trucks embody every principle of efficiency discovered by Packard engineers in ten years' study of Packard trucks in actual service. Built in seven sizes—1, 1½, 2, 3, 4, 5 and 6-ton units—there is one for every practicable load unit. All sizes are uniform in design, and they constitute the only complete line of silent, chainless motor trucks in the world.

Packard New Type Chainless Trucks are sold with optional frame lengths and speeds to suit the work in hand. They have all kinds of power attachments—hydraulic hoists for dump bodies, power winches for heavy hoisting or for drawing cables through conduits, power pumps, swinging cranes and similar appliances—all driven by power from the transmission.

They may be fitted with all kinds of bodies, whether for passenger or commercial service, and their mechanical excellence is supported by the Packard service organization, available in all parts of America. Send to Department L for catalog.

PACKARD MOTOR CAR COMPANY, DETROIT

Ask the man who owns one

Cincinnati's Municipal Picnic

The city of Cincinnati was host to its citizens on September 6—Labor Day. The Board of Park Commissioners invited every family to come to one of Cincinnati's parks—never more beautiful than at this time—bring a basket lunch, and enjoy a day of recreation at the city's expense. One of the reservoirs in Eden Park chanced to be empty to permit of some minor repairs, and the commissioners offered the smooth concrete water-bed as a dancing floor—the largest single dancing floor of concrete in the world. Of all the city playgrounds, Eden Park drew the patrons in the propor-



A RESERVOIR AS A RECREATION GROUND

tion of perhaps ten to one, on account of this unique feature. The crowds made their way down the sloping sides to the flat center, where the band was stationed. Officials claimed that when the band was in full swing, from twelve to fourteen thousand couples were dancing on the reservoir floor.

There were athletic contests for boys sixteen years of age and under, in which a number of prizes were offered; there were old-fashioned sports—watermelon and grape pie contests, three-legged races, and a father-and-son race (each father carrying

his son on his back). There were band concerts, beauty contests, visits to the conservatories, a climb to the top of the water tower for the view, and there were free drinking cups and an abundance of free ice water. It was a great and happy day, and is likely to become an annual event.

+ +

The "Last Word" in Market Building

The opening of the reconstructed Washington Market in New York City was celebrated during the week of October 25, and was in charge of Mr. William Minder and a Committee of Merchants. On the first day there was a parade from the City Hall to the market, and speeches by city officials. Throughout the week there were addresses by prominent citizens, with Marine Band concerts, dairy and pure food exhibits, and special-price market days, when the Housewives League gave instructions to housewives about purchasing to the best advantage.

The old market, first opened in 1812, was a famous landmark, rich in history. The property is owned by the city of New York, being in part ceded by the estate of old Trinity Church to be used forever as a market place. The city has spent more than \$132,000 on the improvement of the market, which is now a community in white, with tiles and marble, silver, nickel and aluminum. The fine interior equipment is the property of the merchants, who have spent nearly a half-million dollars on fixtures and new stands. Concealed lighting is one of the effective features. Each stand is connected with electric lights, gas, hot and cold water, sewer, telephone and refrigeration system. Art, convenience and modern sanitation combine to place the reconstructed market in the first rank. It does an annual business of about \$5,000,000, and supplies food to restaurants and hotels which feed one million people every day; it also does an enormous business throughout Greater New York and in the states of New York, New Jersey and Connecticut.

Commissioner Folks and the office of Borough President Marks have entire control of the maintenance of all public markets in the borough of Manhattan. The reconstruction of Washington Market has



Just for one minute, take a look into the water mains of your city.

You'll be surprised, perhaps, at what you see. Instead of large clean water pipes, you may find their inside walls covered with filth, like the illustration shown here.

And, all this dirt contains—What? No one knows. Still the people of your city must drink the water which passes over this dirt without a protest. They're ignorant of the danger. But, you aren't. *You, therefore, are responsible for their health.*

Don't shirk this responsibility. Investigate how the dirt can be removed by

The National Method

This method cleans out the inside of water mains of all incrustation, making them like new. It removes your responsibility for the health of your citizens by ridding the pipes of all filth which may contain disease.

This question is serious. You should act now—just send a post card for further information.

National Water Main Cleaning Co.
Hudson Terminal Bldg. NEW YORK CITY

been from the beginning a matter of personal interest to both Mr. Folks and Mr. Marks, under whose personal direction Colonel Frank H. Hines and Deputy Commissioner John Boschen have superintended the details of the work. Mr. Sidney H. Goodacre, Collector of City Revenue and Superintendent of Markets, is in charge of assigning space and collecting rents. With

the proposed new open market improvements, the proposed reconstruction of Jefferson Market, the particularly successful regeneration of Washington Market, and the steadily increasing interest of the general public in this matter, there seems to be an indication of great efforts toward bringing down the cost of living in New York City.

Conventions and Exhibitions

ON THE CALENDAR

NOVEMBER 10-12.—PHILADELPHIA, PA.

American Association for the Study and Prevention of Infant Mortality. Executive Secretary, Miss Gertrude B. Knipp, 1211 Cathedral Street, Baltimore, Md.

NOVEMBER 10-13.—PHILADELPHIA, PA.

Conference on Valuation Principles and Methods. Held under the auspices of the Utilities Bureau of Valuation. Acting Director, Morris Llewellyn Cooke, City Hall, Philadelphia.

NOVEMBER 11-12.—GREENVILLE, TEX.

League of Texas Municipalities. Secretary, Prof. H. G. James, University of Texas, Austin, Tex.

NOVEMBER 12-20.—BOSTON, MASS.

Metropolitan City Planning Exhibition for City and Town Advance, together with the Traveling Exhibition of the American City Bureau. Held in the State House. The Third Annual Conference of Massachusetts City and Town Planning Officials also opens on November 12. Chairman of Committee of Arrangements for the Exhibition, Herbert J. Kellaway, 12 West Street, Boston, Mass.

NOVEMBER 16-18.—HARRISBURG, PA.

Third Annual Pennsylvania Industrial and Public Welfare and Engineering Conference. Under the auspices of the State Departments and The Engineers' Society of Pennsylvania. Director of Exhibits, Paul Gendell, 31 South Front Street, Harrisburg, Pa.

NOVEMBER 15-17.—DAYTON, OHIO.

The City Managers' Association. Secretary, O. E. Carr, City Manager, Cadillac, Mich.

NOVEMBER 17.—DAYTON, OHIO.

Ohio Municipal League. Secretary, F. W. Coker, Ohio State University, Columbus, Ohio.

NOVEMBER 17-19.—DAYTON, OHIO.

National Municipal League. Secretary, Clinton Rogers Woodruff, North American Building, Philadelphia, Pa.

NOVEMBER 23-25.—STONEWALL, MAN.

Union of Manitoba Municipalities. Secretary, Robert Forke, Pipestone, Man.

DECEMBER 1-3.—WASHINGTON, D. C.

American Institute of Architects. Secretary, Burt L. Fenner, 101 Park Avenue, New York City.

DECEMBER 7-8.—CHICAGO, ILL.

American Association of State Highway Officials. Secretary, Joseph Hyde Pratt, Chapel Hill, N. C.

DECEMBER 13-17.—CHARLESTON, S. C.

Southern Commercial Congress. Managing Director, Clarence J. Owens, Southern Building, Washington, D. C.

DECEMBER 14-17.—WORCESTER, MASS.

International Road Congress. General Secretary, Herbert N. Davison, Secretary Chamber of Commerce, Worcester, Mass.

DECEMBER 27-31.—WASHINGTON, D. C.

American Economic Association. Secretary, Allyn A. Young, Cornell University, Ithaca, N. Y.

DECEMBER 27-JANUARY 1.—COLUMBUS, OHIO.

American Association for the Advancement of Science. Secretary, Dr. L. O. Howard, Smithsonian Institute, Washington, D. C.

DECEMBER 27-JANUARY 8.—WASHINGTON, D. C.

Second Pan-American Scientific Congress. Secretary-General, John Barrett, LL.D., Pan-American Union, Washington, D. C.

DECEMBER 28-29, WASHINGTON, D. C.

American Association for Labor Legislation. Secretary, John B. Andrews, 131 East Twenty-third Street, New York City.

DECEMBER 28-30.—CHICAGO, ILL.

American Society of Agricultural Engineers. Secretary, F. M. White, Agricultural Engineering Building, Madison, Wis.

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While our "CANCO" garbage can in point of appearance and strength of construction is without a peer, yet our equipment—the most comprehensive in the country—is such that we can make any sort of garbage container at short notice.

We shall be pleased to estimate on any city or park requirement.

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- DECEMBER 28-31.—WASHINGTON, D. C.
American Civic Association. Secretary, Richard B. Watrous, Union Trust Building, Washington, D. C.
- DECEMBER 28-31.—WASHINGTON, D. C.
American Political Science Association. Secretary, Chester Lloyd Jones, University of Wisconsin, Madison, Wis.
- DECEMBER 28-31.—WASHINGTON, D. C.
American Sociological Society. Secretary, Scott E. W. Bedford, University of Chicago, Chicago, Ill.
- DECEMBER 30.—NASHVILLE, TENN.
Engineering Association of the South. Secretary, W. Harwell Allen, Stahlman Building, Nashville, Tenn.
- JANUARY 12-15, 1916.—BALTIMORE, MD.
American Institute of Chemical Engineers. Secretary, J. C. Olsen, Cooper Union, New York City.
- JANUARY 19.—TRENTON, N. J.
New Jersey State League of Municipalities. Secretary, C. J. Swartz, City Hall, Trenton, N. J.
- JANUARY 20-22.—MINNEAPOLIS, MINN.
National Society for the Promotion of Industrial Education. Secretary, C. A. Prosser, 140 West Forty-second Street, New York City.
- FEBRUARY 8-10.—WASHINGTON, D. C.
Chamber of Commerce of the United States. General Secretary, Elliot H. Goodwin, Riggs Building, Washington, D. C.

+ +

For More Helpful Conventions

At the annual convention last month of the American Society of Municipal Improvements, a report was presented which contains valuable suggestions for other national organizations. This report was prepared by the Society's Committee for Revising and Standardizing Committee Work, the members of the committee being A. Prescott Folwell, chairman; Charles Carroll Brown and E. S. Rankin. The recommendations were in part as follows:

"It is desirable to have as many papers as possible distributed among the members of the society in advance of the convention, and committees are requested to urge those who consent to prepare papers to have them in the hands of the committee by such date as the Secretary may fix as necessary for this purpose.

"Every paper should be passed upon by the committee in whose field it would naturally come, and, if accepted by such committee, should then be transmitted to the Committee on Convention Papers, of which the Secretary of the society is chairman by provision of the constitution.

"The discussion in convention which is brought out by a paper is frequently more valuable than the paper itself from an informative point of view, and is especially so as giving an interesting and live convention. This idea should be kept in mind in selecting subjects and approving papers to be read before the society. In the case of some papers, such as those which contain tables and statements more or less burdened with statistics, it would be well for the committee to go carefully over the paper and note such matter as could be readily appreciated only when read from the printed page, and to request the author either to omit this in reading the paper before the society (the matter, of course, to be published in full in the Proceedings), or to prepare a brief statement for such oral presentation which will give the gist of the information contained therein.

"Authors should be requested to include in their papers all which they desire to say upon the subject, or at least to put the same in writing to accompany the paper; there being two reasons for this—one that there may be no question as to the matter being published in the Proceedings exactly as the author intended it, and the other, because perhaps the majority of men, in making extemporaneous statements before a convention, are likely to occupy unnecessarily a much greater length of time in explaining themselves than if they had previously put the same ideas in writing.

"Committees which solicit papers, and also the Committee on Convention Papers, should



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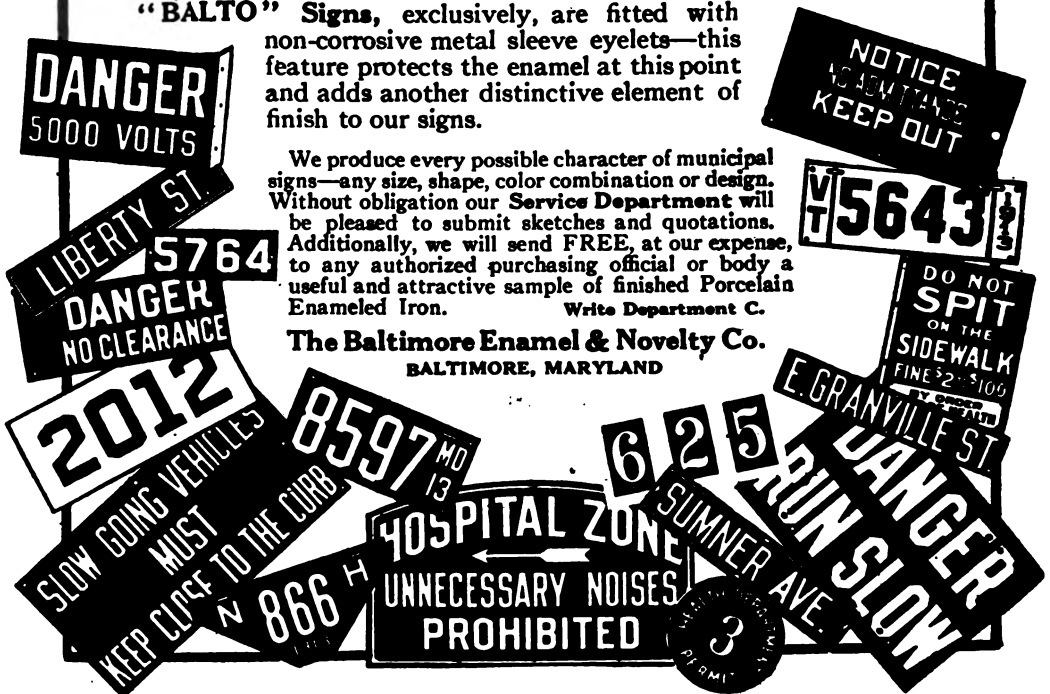
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BALTIMORE, MARYLAND





ATTENDANTS AT THE RECENT CONVENTION OF THE NATIONAL ASSOCIATION OF COMMERCIAL ORGANIZATION SECRETARIES

endeavor to eliminate from all papers matter which is apparently presented with the sole object of advertisement; but this should not be taken to exclude statements containing information which would be of benefit to the society, merely because they describe or commend some patented or commercial article.

"As a general thing, a short paper full of meat is much preferable to a long one, and condensation of papers should be encouraged, but not to the point of lessening their intelligibility. There are, of course, exceptions, such as a comprehensive paper covering a wide field and endeavoring to sum up all available information on a subject; but, generally speaking, 2,000 to 4,000 words is an excellent length for a paper, or at least for that part which is to be read aloud at the meeting."

The Executive Committee recommended that the privilege of using the copyrighted specifications which had been worked up by the society should be granted to any city applying for them only on condition that such city should be represented in the membership of the society.

The officers elected were:

President—A. F. Macallum, Hamilton, Ont.
 Vice-Presidents—Norman S. Sprague, Pittsburgh, Pa.; J. B. Hittell, Chicago, Ill.; E. R. Conant, Savannah, Ga.
 Secretary—Charles Carroll Brown, Indianapolis, Ind.
 Treasurer—Will B. Howe, Concord, N. H.

The Finance Committee consists of E. S. Rankin, Newark, N. J.; Matthew Brown, Emporia, Kans.; F. J. Cellarius, Dayton, Ohio.

Newark, N. J., was chosen as the next place of meeting.

✦ ✦

National Association of Commercial Organization Secretaries

The new officers of the National Association of Commercial Organization Secretaries, elected by the Directors after the adjournment of the annual convention in St. Louis October 27-29, are as follows:

President—William George Bruce, Merchants' and Manufacturers' Association, Milwaukee, Wis.

Vice-Presidents—John Wood, Chamber of Commerce, Roanoke, Va.; James A. McKibben, Chamber of Commerce, Boston, Mass.

Secretary-Treasurer—Howard Strong, Civic and Commerce Association, Minneapolis, Minn.

The new Directors are:

William George Bruce, W. C. Culkings, James A. McKibben, S. Cristy Mead, Hubert F. Miller, Howard Strong, O. B. Towne, John Wood, Roland B. Woodward.

Cleveland was chosen as the meeting place of the next convention.

The Chamber of Commerce of the United States has organized a bureau of service to trade and commercial organizations, to be known as the Organization Service Bureau. The plan of this bureau was submitted to the Board of Directors of the National Association of Commercial Organization Secretaries, and by them submitted to the members at the annual convention and unanimously endorsed. The plan has since been approved by the Board of Directors of the National Chamber. The work of organizing and conducting the bureau has been entrusted to Colvin B. Brown. The information which the Service Bureau acquires will be distributed through *The Nation's Business*, through bulletins to commercial secretaries, through correspondence and by visits by field men and the Chief of the Organization Service Division.

✦ ✦

National Housing Association

The fourth National Conference on Housing, held in Minneapolis October 6 to 8, showed a marked advance over previous meetings. The distinguishing feature was the effective coordination between the generalities which necessarily absorb so much time in such a gathering and the concretions which are to be found in the conference city as illustrations of the subject matter of discussion.

Doubtless this was due in part to a new plan for the drafting of the program. This

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The Old Cellar Door Commercialized

Everwear Chutes for All Ages



If there is any one piece of playground apparatus that the child likes more than another, that outfit is the slide chute. This is the most popular outfit of all in the minds of the children, and just keep your eye on the "grown-ups" for a slide on the sly.

The bedways of Everwear Chutes are lined with either clear rock maple or heavy galvanized sheet metal—as you elect—the price being the same. The all-steel step approach is equipped with malleable TREAD STEPS and all metal parts are galvanized throughout.

We furnish them in all lengths from the 8-foot Kindergarten length to the 30-foot length for public playgrounds.

Catalog C-3 showing a full line of the latest and approved playground equipment will be sent on request.

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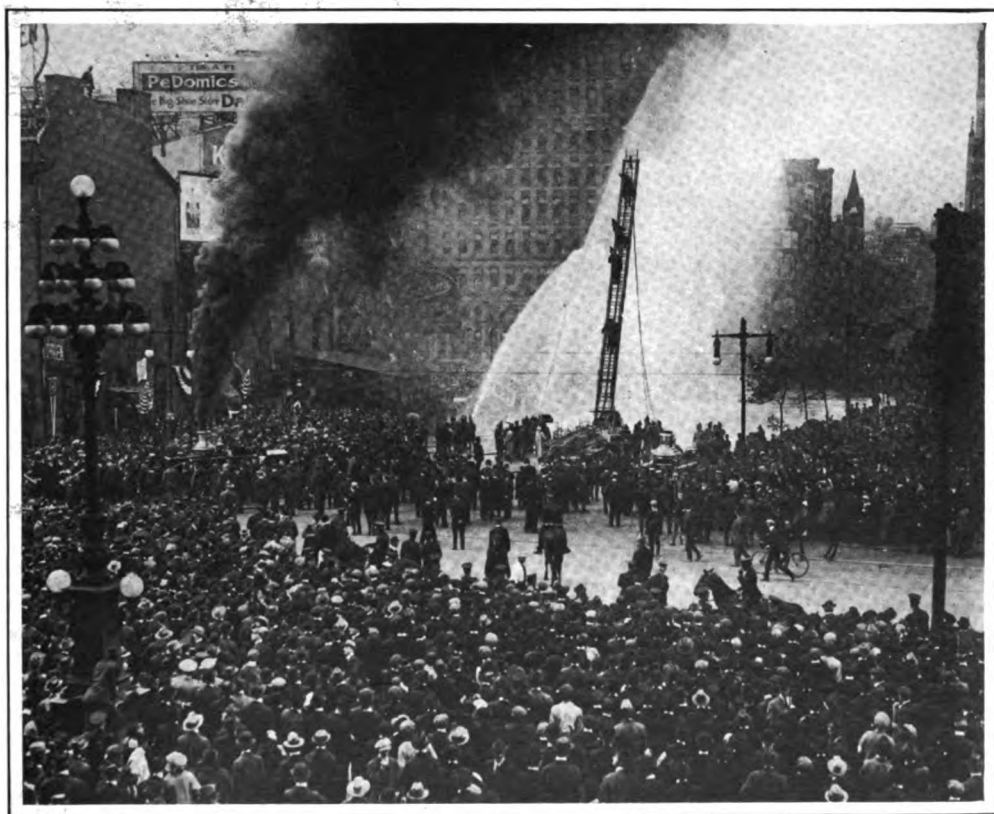


year a special program committee was appointed, composed of Mr. Andrew Wright Crawford of Philadelphia, chairman; Mr. Elmer S. Forbes, Boston; Mr. Chas. B. Ball of Chicago; Mr. Robert E. Todd of Detroit; Mr. Otto W. Davis of Minneapolis; Mr. John J. Murphy of New York, and Miss Mildred Chadsey of Cleveland. Hitherto the program has been arranged from the New York office of the National Housing Association. The committee this year brought to bear consideration of experience and the need of many localities. It was the universal testimony that the results were unexpectedly satisfying.

The program was based on the answers to a series of questions sent out after the last conference to all members of the National Housing Association. The plan was to put subjects of general interest and widest appeal in the evening and those of a more technical character in the afternoon,

while the mornings were reserved for the section meetings, where the delegates could find the thing in which they were most particularly interested. There was also an examination of the best and the worst of housing conditions in Minneapolis, and the Minneapolis men and women sought earnestly and received freely candid expressions based upon this hasty survey.

The verdict was that Minneapolis contains only the germs of bad housing in the municipal body. The degree of local co-operation in the operations and discussions of the conference was convincing evidence that Minneapolis is alive to the need of eradicating those germs. The delegates to the conference, scattering to their own cities in many states, voted, but not in a perfunctory spirit, the usual resolution of thanks for the opportunities proffered and the pleasures given by the National Conference and by the city of Minneapolis.



A DEMONSTRATION OF THE PHILADELPHIA HIGH-PRESSURE SYSTEM FOR THE BENEFIT OF THE RECENT CONVENTION OF THE PENNSYLVANIA STATE FIREMEN'S ASSOCIATION

Specify Gramm- Bernstein Trucks

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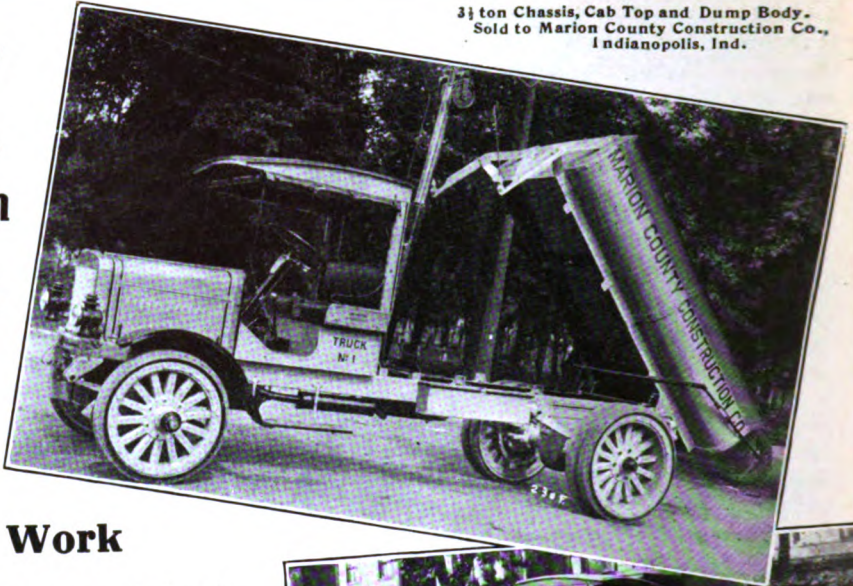
Our Trucks are designed and built with the idea of securing the greatest flexibility of units consistent with the service to be performed, and are built to meet various requirements. *Not Built Over.*

Fully 75 per cent. of motor truck trouble today lies in the Transmission, due to gear shifting under heavy loads. B. A. Gramm's transmission is not only a distinctive Gramm feature, but is *guaranteed for life under all conditions and is absolutely fool proof.* For example, a Gramm Truck in Fire Department service with full speed ahead may be thrown into reverse if the occasion demands, locking and reversing the real wheels. It must be acknowledged that a test of this character is severe, to say the least.

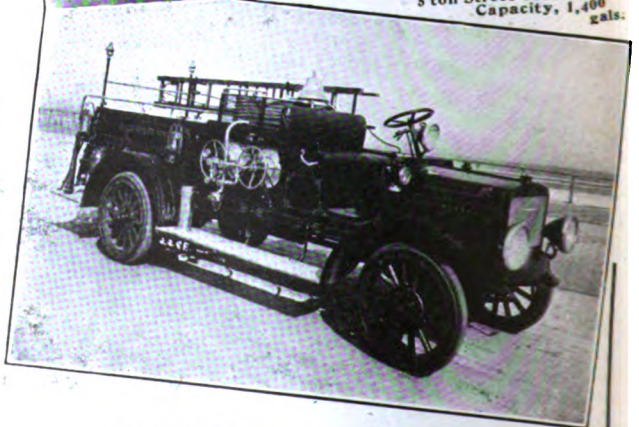
The Gramm Worm Drive is good for fifty to one hundred thousand miles without the slightest appreciable decrease in working efficiency. The moving parts are protected from dust and grit, and like the transmission is fool proof.

Motor and chassis design are a result of Mr. Gramm's experience of over fifteen years as a manufacturer of Motor Trucks. Specifications and photographs will be gladly sent on request covering the various types of Municipal and County Trucks for all departments.

3½ ton Chassis, Cab Top and Dump Body.
Sold to Marion County Construction Co.,
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5 ton Street Flusher,
Capacity, 1,400
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1½ ton Fire Truck,
Sold Wildwood, N. J.

THE GRAMM-BERNSTEIN CO., Lima, Ohio

League of Washington Municipalities

At the sixth annual convention of the League of Washington Municipalities, held in North Yakima, October 6 to 8, the leading feature was an extended discussion of public utilities, each party to the controversy being represented by some of its ablest men.

Other important timely discussions which engaged the attention of the convention deal with the reorganization of public health work in the state of Washington, public milk and water supplies, the managerial form of municipal government and university training for public service.

The report from the League's committee on public utilities includes a proposed legislative bill relating to powers of municipalities with reference to public utilities, which received the endorsement of the convention in substantially its present form, and which is to be submitted to the voters of the state as an initiative measure at the next election. The convention also instructed the same committee to draw up, before next January, a bill giving to the cities and towns of the state a larger measure of home rule in local municipal affairs.

Other legislative work mapped out for committees of the League includes:

- (1) A bill providing optional forms of government for cities other than first class.
- (2) Preparing suitable legislation extending the principle of the merit system to state, county and city positions.
- (3) Coöperating with the state commissioner of health in the preparation of a revised public health code for the state.

One of the resolutions adopted by the convention calls for the appointment of a committee to work out a proposal for a city planning conference in connection with the work of the League, and another resolution relates to the League's coöperation with the Utility Bureau established by the Conference of American Mayors.

The Proceedings of the convention will be published within a few weeks.

The following officers were elected:

President: Leonard O. Meigs, City Attorney, North Yakima
 Vice-President: W. H. L. Ford, City Treasurer, Everett
 Secretary-Treasurer: Herman A. Brauer, University of Washington, Seattle



Connecticut Mayors' Association

The officers of the Connecticut Mayors' Association, elected at the convention of the

Association held on October 20, are as follows:

President—Former Mayor T. C. Murphy, Norwich.
 Vice-President—Mayor Frank J. Rice, New Haven.
 Secretary-Treasurer—Mayor J. M. Coburn, Norwalk.
 Executive Committee—Former Mayor E. T. Buckingham, Bridgeport, chairman; former Mayor Wallace Cann, Norwalk; former Mayor Louis R. Cheney, Hartford.



National Paving Brick Manufacturers Association

The annual convention of the National Paving Brick Manufacturers Association was held in Dayton, Ohio, October 11-12. As the American Society of Municipal Improvements was meeting in Dayton at the same time, the Association gave a dinner to the Society on the evening of October 12. The Association had an exhibit of paving brick in connection with the exhibition of materials used in municipal work held by the American Society, and members of both organizations made an automobile inspection of brick and other streets and roads in Dayton and vicinity. The committee in charge of technical investigations reported that arrangements had been made with two or three colleges to carry on experimental work in the physics of brick pavements. C. C. Blair was elected president, and Will P. Blair was reelected vice-president, with H. H. Macdonald as his assistant.



League of American Municipalities

At the meeting of the League of American Municipalities, held in New Orleans September 27-30, the following officers were elected:

President, Hon. Martin Behrman, Mayor, New Orleans, La.
 Vice-Presidents: Hon. L. A. Lapointe, Alderman, Montreal, Quebec; Hon. Patrick C. O'Brien, President, Common Council, Newark, N. J.; Hon. James M. Curley, Mayor, Boston, Mass.; Hon. Roswell O. Johnson, Mayor, Gary, Ind.
 Honorary Secretary for Canada, Hon. C. J. Brown, City Clerk, Winnipeg, Manitoba.
 Sergeant-at-Arms, Hon. Richard J. Franz, Tax Receiver, Newark, N. J.
 Secretary-Treasurer, Hon. Robert E. Lee, Mayor's Secretary, Baltimore, Md.

The Board of Trustees of the League is as follows:

Hon. Martin R. Carlson, Mayor, Moline, Ill.
 Hon. Clinton J. Swartz, Receiver of Taxes, Trenton, N. J.
 Hon. Samuel A. Carlson, Mayor, Jamestown, N. Y.
 Hon. W. D. Clarke, Alderman, Charleston, S. C.
 Hon. Ira W. Jayne, Superintendent, Recreation Commission, Detroit, Mich.
 Hon. Daniel J. Sweeney, City Clerk, Buffalo, N. Y.
 Hon. Theodore W. Schimpf, City Attorney, Atlantic City, N. J.



American Civic Association

The eleventh annual convention of the American Civic Association will be held at

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Road No. 83
Rocmac Road, Monroe Co., N. Y.

set a new standard for Durability. The superior wear-resisting quality is due to the fundamental principle of Rocmac construction.

The road surface is held firmly in a solid mass wearproof and frostproof. The hard wearing metal is held permanently in the top course, giving a durability and freedom from repairs not approached by any other method at anything near the same construction cost.

Every highway department will appreciate the complete superiority of Rocmac as shown by ten years of practical test and through demonstration in actual use. Let us send you the 1915 Road Book. Address any of the following distributors:

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The Frohman Chemical Co. Sandusky, Ohio
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The Grasselli Chemical Co. The Arcade, Cleveland, Ohio
Central Commercial Co. 111 North Market St., Chicago, Ill.

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Towels

The Health of Your City is at Stake

Remember that you are directly responsible for the health of your city—and that the success of your management depends to a large degree upon your attention to sanitation. Few realize that a widely prevalent source of infection and sickness in cities is the germ-spreading, filthy roller cloth towel. Even the seemingly clean individual cloth towel gathers germs of the most deadly kinds—and is not freed from them by ordinary washing. Every cloth towel carries its colony of myriads of germs from hand to hand and face to face—spreading the white plague, skin, blood, eye and other diseases.

PUBLIC SERVICE TOWELS

RUB—DON'T BLOT

(INDIVIDUAL Towels, used once, destroyed and never used again)

are dispensed one at a time from a dust and germ-proof steel cabinet and are the first really sanitary, economical and practical towels. Each towel is an individual towel, made of pure wood pulp, unbleached and strong; a scientific combination of absorbing quality and strength—deeply creped.

PUBLIC SERVICE Towels are real crash towels, made of paper. The hands can be rubbed dry and clean without the towels falling to pieces and linting your clothes. No more blotting—no more waste.

Served from our special white enameled steel containers which have no knobs to turn with wet hands or other mechanical contrivances to get out of order—and dispensed automatically just one absolutely sanitary towel at a time.

If you are interested in municipal improvement and in protecting the health of your city—write for samples and our valuable book, "PUBLIC SERVICE."

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Washington, D. C., December 28-31, in conjunction with the second Pan-American Scientific Congress. It will be a notable meeting for the discussion of a variety of subjects relating directly to the physical improvement of towns and cities. Especial attention will be given to the important subject of town and city planning, with particular reference to the needs of the smaller cities. The American Civic Association is extending a general invitation to all organizations and individuals interested in civic affairs to attend its convention. Notable among the distinguished guests attending the convention will be Lord and Lady Aberdeen from England, who are traveling in this country, and who will contribute to the interest of the convention not only by their presence, but by participating in the program.

The League of Virginia Municipalities

Special interest was given to the tenth annual convention of the League of Virginia Municipalities, October 12 and 13, from the fact that it was held in Fredericksburg, an historic city which has been making rapid progress recently under the city manager form of government.

The subjects discussed at the convention included taxation, the city manager plan, city planning and "Preparing the People for Progress."

The 1916 convention will be held at Clifton Forge. A. B. Davies, mayor of that city, was elected president of the League, and L. C. Brinson, of Portsmouth, was re-elected secretary and treasurer.

Municipal and Civic Publications

Copies may be ordered of THE AMERICAN CITY, with the exception of Government publications and those indicated as free, which should be ordered direct from the offices publishing them

BULLOCK, EDNA D., Compiler.

Short Ballot. (Debaters' Handbook Series.) 1915. 160 pp. \$1.07

This handbook, which has been prepared "to furnish general information of the various governmental activities as related to the short-ballot idea," is composed of 31 articles reprinted from various magazines and treating the different phases of the subject. Among the contributors are Frederick C. Howe, Commissioner of Immigration; Richard S. Childs and H. S. Gilbertson, of the Short Ballot Organization; Harold S. Buttenheim, editor of *THE AMERICAN CITY*; L. D. Upson, formerly director of the Dayton Bureau of Municipal Research; John Crosby, Francis A. Brogan, etc. The book "concerns itself with the short-ballot idea as applied to state and county government, and also includes the city-manager plan of municipal government." A compact bibliography, carefully compiled, and a short introduction precede the general discussion.

HOWE, FREDERIC C.

Socialized Germany. 1915. 342 pp. \$1.60

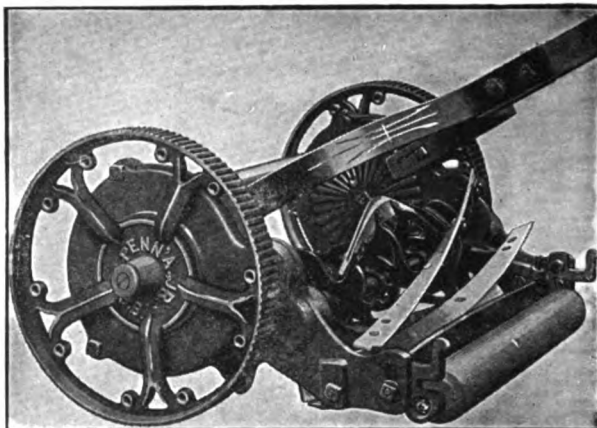
Mr. Howe says in the first chapter: "I like the German cities, and have affectionate memories of Munich, Dresden, Düsseldorf, Frankfurt and Nuremberg, with their generous provision for art, drama, music and the cultured things of life." Further on he continues: "The following chapters are an attempt to understand the conflict between these achievements and the things we do not like in Germany." This conflict Mr. Howe attributes to the policy which has been adopted by the state of Prussia: "The confusion we feel about Germany is traceable to the fact that much of the beauty and charm of old Germany has been crushed under the heel of the feudal autocratic caste, which, under constitutional forms, has projected its ideas into the very life of the empire. It is a Germany that has lost much of the individuality, much of the freedom and much of the liberalism of a century ago, for which has been substituted a commercial and landed feudalism having for its foundations the political and social concepts of an earlier age." Nevertheless, the author feels that Germany is more

intelligently organized than is the rest of the world, and we should not allow our distaste for the present war and for all forms of militarism to invalidate in our minds the real accomplishments and progress of the German people. In Germany "the gains of civilization are more widely distributed than they are with us," and as a result "the individual man is more efficient." The truer German spirit thus differentiated, Mr. Howe traces its evolution in modern times, discussing state socialism, government ownership and allied aspects. The social problem comes in for careful treatment, and the hinging problems of unemployment and social insurance are considered. The German educational system, in particular, is analyzed and vocational education progress is dwelt upon at length. The concluding chapters deal with health and sanitation, city government by experts, municipal socialism, city building, housing and "The German Conception of the State." It is Mr. Howe's opinion that to compete successfully with German organization, after the war, "there must be a wide extension of public ownership, a greater control of the aggressions of privilege and property, a big program of social legislation, a change in our system of education and the exclusion of privileged and business interests from the long ascendancy which they have enjoyed in our political life."

TWYFORD, H. B., Otis Elevator Company.

Purchasing: Its Economic Aspects and Proper Methods. 1915. 236 pp. Charts, diagrams and forms. \$3.00

Efficient buying methods as at present employed in large corporations such as the London Underground Electric Railways and the Otis Elevator Company are discussed in this book at length, and are illustrated by diagrams and reproductions of index cards, order forms, requisition cards, storeroom tickets, and the like. The aim of the book is to impress upon the minds of its readers "the economies which can be effected by the use of efficient methods in the purchasing of materials, goods and supplies." The preface insists upon the point that to a large extent the successful business is built on the buying of the right materials in the right way, and this principle will be found to be true of municipalities as well as of corporations.



Ask the man who *uses* one, and he will tell you how efficient and easy-running "PENNSYLVANIA" Lawn Mowers really are.

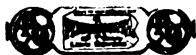
Ask the man who *owns* one, and he will tell you how durable, long-lived, and how free from grinding and repair expense, they are.

"PENNSYLVANIA" Quality Lawn Mowers

(HAND, HORSE OR POWER)

All the blades, both straight and curved, are of oil-hardened, water-tempered crucible tool steel. And they are self-sharpening.

And, other features of "PENNSYLVANIA" Mowers are just as superior as mechanical ingenuity and skill can make them.



The "PENNSYLVANIA" line includes the following brands:

"Pennsylvania"
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"Scientific Lawn Making," an instructive book written by a prominent authority, gladly mailed to you with a catalog of "PENNSYLVANIA" Quality Lawn Mowers. Write today.

"The Pennsylvania People"

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MOON, FREDERICK FRANKLIN, B. A., M. F., Professor of Forest Engineering, New York State College of Forestry at Syracuse, and BROWN, NELSON COURTLANDT, B. A., M. F., Professor of Forest Utilization, New York State College of Forestry at Syracuse.

Elements of Forestry. 1914. 392 pp. Photographs, tables and charts. \$2.00

Barely twenty years ago the first forest reserves were set aside; now the gross area of the national forests is 186,000,000 acres. This fact illustrates the material strides made in the development of the American forest policy. But more encouraging still has been the great improvement in public sentiment: forestry, formerly a subject for "high-brow" discussion only, has become an important part of the nation's news. This book has been compiled to supply an up-to-date textbook, the need for which renewed interest in the subject has made apparent. The student is orientated in the first chapter by a definition of forestry as the science of employing the usufruct of forests in such a way as to promote the best interest of the citizens. In the chapters which follow are discussed: the tree; silvics; silvicultural systems of management; improvement cuttings; artificial regeneration; forest protection and mensuration; lumbering; wood technology, preservation and utilization; forest economics and finance; and kinds of forests in the United States. Besides numerous photographic illustrations and bibliographical notes at the end of each chapter, the book is equipped with valuable appendixes of tables and statistics, a glossary of terms, and an index.

GORDON, J. J.

Cemetery Management. 1915. 204 pp. Photographs. \$1.50

The introduction says: "The question of cemetery management is one which interests many and large industries," as the "development of a cemetery involves the cement and marble companies, those interested in granite and crushed stone, in trees, shrubs and flowers, artists whose work in art glass makes appeal to those who are planning chapels and other buildings, and the best in cemetery management is that which utilizes with the best results these many lines of business." The book aims to assist in the solution of the problems of cemetery management, accounting and recording systems, etc. Special aspects, such as water supply, the use of flowers, earth burial, cremation, mausoleums, care funds, greenhouses, automobiles, and the uses of concrete are thoroughly discussed and the best practice cited. A number of photographs illustrating ancient and modern burying grounds are included in the text.

SAVAGE, WILLIAM G., B. Sc., M. D. (Lond.)
D. P. H., Medical Officer of Health for
the County of Somerset.

Rural Housing. 1915. Illustrations, drawings and tables. 297 pp. (Published in England.) Duty extra. \$2.00

After a preliminary discussion of the housing problem, the book considers the present English laws on the subject. Existing conditions, as made more clear by recent housing surveys, are examined, and the possibility of converting many insanitary houses into satisfactory dwellings through needful structural and other minor changes is discussed. Housing shortage is shown to exist—this evil tending to become exaggerated through the condemnation of buildings for reasons of sanitation. The inadequacy of existing laws, partially accountable for this shortage, is next revealed and the requirements necessary to change this condition are set forth. In the closing chapter the influence of wages upon the housing problem is discussed and the opinion is registered: "If a minimum wage is established it is probable that the rents of many of the existing houses would rise considerably."

OHIO MUNICIPAL LEAGUE.

Proceedings of the Tax Conference.
Held under the Auspices of the Ohio
Municipal League at Its Fourth Annual
Meeting, Columbus, February 11-12, 1915.
76 pp. Order from the Secretary of the
League, Columbus, Ohio. Free

HILL, MABEL, Associate Director of the Garland School of Home-Making, Boston, and DAVIS, PHILIP, Director of the Civic Service House, Boston.

Civics for New Americans. 1915. 178 pp. Photographs and charts. 80 cents

Written primarily for the children of immigrants recently come to America, this book differs from many textbooks of the sort in that it "attempts to set forth the work that is going on in many American cities to better both social and political conditions." It also "challenges every new American to affiliate himself with the constructive element in his new country." The book comprises seven chapters, which, under such heads as Civic Opportunities, Civic Protection, Civic Conveniences, Community Needs, Civic Improvements and Civil Government, treat of the practical side of community life as illustrated in public schools, museums, libraries, the police department, the departments of charity and of health, water-works, sewer systems, lighting, transit, food and milk inspection, factories and sweatshops, "Safety-First" and "Clean-Up" campaigns, use of vacant lots, better housing, city planning, citizenship, immigration and civil service. An appendix contains much information with regard to the legal aspects of citizenship, petition forms, constitution for a New Americans club, and closes with "The Star-Spangled Banner" and "America."

HUNTER, GEORGE WILLIAM, Head of the Department of Biology, De Witt Clinton High School, City of New York.

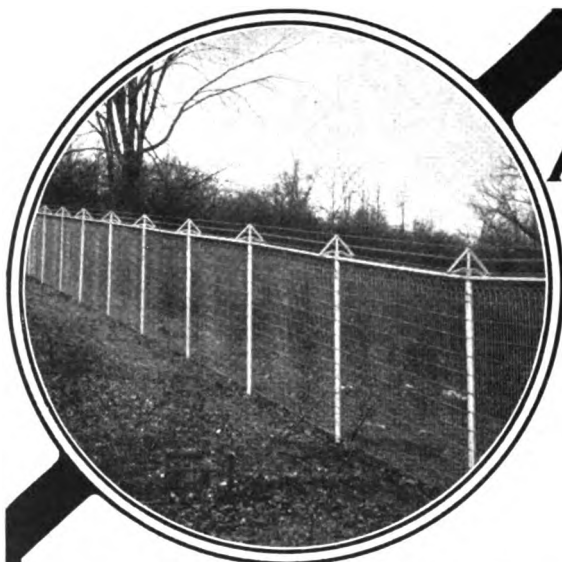
A Civic Biology. Presented in Problems. 1914. 432 pp. Photographs, charts and diagrams. \$1.25

The children of to-morrow will be better fitted to take up their position in the civic community as a result of the modern innovations in the public school curriculum. In the present work the study of biology has been brought into a definite relation with the daily life of the student by discussion of the biological significance of environment (hence housing reform, clean streets, adequate sanitation, etc.), of foods (hence dietetics, food inspection and the regulation of its sale), and many other interesting problems. Besides the regular exposition of the matter of biology, from a discussion of plant life the book continues to a consideration of forests, their uses and the necessity of their protection, the economic importance of animals, the human machine and its needs, and "Some Great Names in Biology." The work, which is intended for use as a textbook, contains chapter lists of book references, numerous illustrations, charts and diagrams, besides many practical hints and devices for gaining and holding the interest of the pupil.

CURTIS, HENRY S., Supervisor of the Playgrounds of the District of Columbia.

The Practical Conduct of Play. 1915. 330 pp. (Home and School Series, Edited by Paul Monroe.) Photographs. \$2.13

In this book, the aim of which is "to give definite detailed information and suggestions such as can be easily followed and will be helpful in the daily work of the [play] director," the author informs us that in 1906, at the time the Playground Association of America was organized, "there were less than twenty cities in the United States that were maintaining playgrounds, and in some of these the play was unsupervised." Seven years later there were 342 cities with playgrounds under regular paid workers, but by including the cities which are carrying on their playgrounds through volunteer workers or caretakers, the total number is raised to 642. "There are thus," we



PHOTOGRAPHIC VIEW

of Cyclone Non-Climbable Property Protection Fence, erected on country estate of Mr. H. Timken, President of Timken Roller Bearing Co., Canton, Ohio.

CONSULTATION SERVICE FREE.—Our engineers will help you solve your fencing problems without charge. We co-operate with those in charge of private estates, parks, playgrounds, etc. Engineer to superintend erection furnished at nominal cost.

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**FOR CITY PARKS AND HOMES
AND COUNTRY ESTATES**

Our method of construction makes this fence distinctive in style and quality. It can be erected on rolling land, steep grades, through ravines, etc., without affecting the stability or form of the fabric.

**Affords Permanent Protection Against
Intrusion, and adds to the Value
and Attractiveness of the Grounds.**

Built of heavily galvanized wire, closely spaced and strongly woven. Barb wire top overhanging either side or on both sides prevents climbing over. Built in all practical heights.

Write for free Illustrated Catalog giving designs and prices. Give description and size of grounds to be enclosed.

CYCLONE FENCE COMPANY
Dept. 107 Waukegan, Ill.

Club Rates for The American City

In view of the fact that many municipalities, chambers of commerce and civic organizations desire to subscribe for a number of copies of **THE AMERICAN CITY** for distribution among their officers, committeemen, etc., the publishers of **THE AMERICAN CITY** have arranged a special schedule of rates for clubs of subscriptions which will be quoted on application. These club rates are also available for individuals who wish to arrange for a number of subscriptions for their friends.

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make the highest yearly paint record for economy by specifying and using

Dixon's Silica-Graphite Paint

for all metal work. Made in *first quality* for fifty years. Largely used by municipalities. Let us serve you.

Write us for long service records, No. 107-B.

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JOSEPH DIXON CRUCIBLE COMPANY
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Send for This Booklet

Contains lots of good information for the man who wants to reduce his power and light cost, as well as the gas engine operator who is interested in getting the most efficient results from his equipment.

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Bruce-Macbeth Engineering Service.
Producer Gas Plants.

How thousands of wasted horse power can be saved.
Meriam Steam Process.
Gas Engine Data.
(A section for the operating engineer.)

The Bruce-Macbeth Engine Co.
2137 Center St., N.W. Cleveland, O.

KILARVA
WORLD'S GREATEST
MOSQUITO LARVICIDE

KILEM
LIGHTNING INSECTICIDE

KILOUSE
FOR THE CHICKEN HOUSE

KILOFLY
KEEPS FLIES OFF HORSES
AND CATTLE

PRODUCTS OF MERIT

KILOFLEA
FOR THE KENNEL

SAN-NO-DUST
FLOOR SWEEPING
COMPOUND

KREDOL
STRONGEST
DISINFECTANT

SANODIP
NO. 1, 2 AND 3 SHEEP AND
CATTLE DIPS

LET US SUPPLY YOU!

HILL CHEMICAL PRODUCT CO.
539 Real Estate Trust Co., Phila., Pa.

are told, "from twenty to thirty times as many cities that are maintaining playgrounds now as there were eight years ago." The book discusses the practical aspect of recreational organization and management; construction of playgrounds, playgrounds according to ages and sexes, equipment, swimming pools, the field house, the play organizer, festivals and team games, etc. A short bibliography is appended and two appendices on "A Playground and Recreation Association" and "Financing a Play System." It is the author's opinion that "the organization of play is one of the new public functions that are coming in, and that every city and probably every country section must soon join the movement or be classed among the backward or decadent communities."

DEPARTMENT OF PRACTICAL ARTS, PUBLIC SCHOOLS, READING, PA.

A Survey of Manual, Domestic and Vocational Training in the United States. 1915. 156 pp. Free

UNITED STATES DEPARTMENT OF AGRICULTURE, Office of the Secretary.

Social and Labor Needs of Farm Women. (Report No. 103. Compiled in the Office of Information, G. W. Wharton, Chiet.) 100 pp. 1915. (Order direct from the department or the Government Printing Office.) 15 cents

WOOD, DR. THOMAS D., Chairman of the Committee on Health Problems of the National Council of Education.

Minimum Sanitary Requirements for Rural Schools. (Proposed by The Joint Committees on Health Problems in Education of the National Council of the Na-

tional Education Association and of the American Medical Association.) 8 pp. 1914. (Order direct from American Medical Association, Chicago.) Free

FORD, GEORGE B., Consultant to the Committee on the City Plan, Board of Estimate and Apportionment, New York City.

The City Controlling the Development of Private Property. (Paper No. 95, The Municipal Engineers of the City of New York; presented April 28, 1915.) 28 pp. 50 cents

SEARS, WALTER LINCOLN, Superintendent of the Public Employment Bureau of the City of New York.

Unemployment: Its Relation to Crime, Delinquency and Probation. (An address before the New York City Conference on "Probation.") April 22, 1915. 8 pp. (Order direct from Mr. Sears.) Free

NATIONAL BOARD OF CENSORSHIP OF MOTION PICTURES.

Suggestions for a Model Ordinance for Regulating Motion Picture Theatres. 15 pp. 1915. 10 cents

MILWAUKEE BUREAU OF MUNICIPAL RESEARCH.

Ash Collection in Milwaukee. 1914-1915. Tables and charts. 45 pp. (Order direct from the Bureau.) Free

Manufacturers' Literature

Available Free of Charge for Readers of THE AMERICAN CITY

Advertisers are invited to submit catalogues or circulars suitable for mention in these columns. THE AMERICAN CITY should always be mentioned when writing for this material.

Preventing Water Leaks

Booklet published by the Pitometer Company, New York Edison Building, 55 Duane Street, New York City.

Detachable Tractor

Booklet regarding the Knox detachable tractor for fire department and other municipal use. Knox Motor Associates, Springfield, Mass.

Street Cleaner

Circular relative to Tarco street cleaner for operation by hand. Tarrant Manufacturing Company, 12 Maple Avenue, Saratoga Springs, N. Y.

Horse-Drawn Sweeper

Book relative to the Baker dustless street cleaning machine. Baker Manufacturing Company, 503 Stanford Avenue, Springfield, Ill.

Steel Curb Bar

Booklet on the Wainwright galvanized steel corner bar for the protection of concrete curb. Steel Protected Concrete Company, Real Estate Trust Building, Philadelphia, Pa.

Enameled Signs

Circular on enameled signs for streets. Ohio Valley Enameling Company, West Lafayette, Ohio.

Expansion Joint for Paving and Sidewalks

Booklet relative to Carey's elastic expansion joint for use in helping to make roads and sidewalks more permanent. Philip Carey Company, 8 Wayne Avenue, Lockland, Cincinnati, Ohio.

Street and Road Signs

Small booklet describing street signs which are practically indestructible. Indestructible Sign Company, 528 Dennison Avenue, Columbus, Ohio.

Road and Street Machinery

Catalogue relative to the Galion line of road machinery and culvert pipe. Galion Iron Works and Manufacturing Company, 111 East Main Street, Galion, Ohio.

Dump Wagons for Municipal Service

Attractive booklet referring to Bain dump wagons as used by the Bureau of Highways and Sewers, Pittsburgh. Bain Wagon Company, Main and Pearl Streets, Kenosha, Wis.

The Importance of Clean Sewers

Catalogue explaining use of the Turbine sewer machine for cleaning large and small sewers. Turbine Sewer Machine Renovating Company, 199 Eleventh Street, Milwaukee, Wis.

Combination Sprinkler and Sweeper

Folder descriptive of a machine which combines street sprinkling and street sweeping. Austin Western Road Machinery Company, Chicago, Ill.

Road Rollers for Municipal Contractors' Use

Catalogue in reference to road rollers built in all sizes up to 20 tons. Buffalo Steam Roller Company, Buffalo, N. Y.



A Fence that Protects and Beautifies

A fence to be appropriate for public grounds must be dignified and substantial. Choose your fence according to its use. We picture here one of the many styles of

Excelsior Iron Fence

Appropriate for Parks, Cemeteries, Playgrounds, Factories, and all public places.

Excelsior Iron Fences, with posts set in concrete, combine great durability with service and handsome appearance. They do not obstruct your fine views. Special designs furnished on request.

We also make Excelsior Rust Proof and Chain Link Fences, Bed Guards, Tree Guards, Trellises and Trellis Arches. Write for Catalog G.

WRIGHT WIRE COMPANY

WORCESTER, MASS.

KING STANDARDS



Proper Lighting Increases Sales

And we can prove it to you whether you are A Merchant, A Banker, A Councilman or A Park and Boulevard Supervisor.

The plan we have to offer is worth a few minutes of any man's time to read.

Write now—and with our reply we will send you King's New Ornamental Lighting Standard Poster—a work of art showing 100 different styles.

Start that progressive spirit today—write, wire or phone.

KING FOUNDRY COMPANY

Largest Exclusive Manufacturers of Ornamental Lighting Posts

ST. JOSEPH, MISSOURI

CHICAGO OFFICE - - - 530 MONADNOCK BLDG.

Books on Municipal Topics

Folder relative to the National Municipal League Series. D. Appleton & Company, New York City.

Street Lamps

Booklet regarding American boulevard arc lamps for street lighting. American Gas Machine Company, 551 Clark Street, Albert Lea, Minn.

Water Purification by Liquid Chlorine for Small Communities

General information about the subject indicated, followed by an illustrated description of the manual control chlorinator manufactured by Wallace & Tiernan Company, Inc., 136 Liberty Street, New York City.

Inspection and Tests of Materials for Highway Bridges**Inspection and Testing of Paving Brick**

Two pamphlets giving standard specifications for highway bridges and paving brick, adopted by American Society for Testing Materials. Robert W. Hunt & Company, 2200 Insurance Exchange Building, Chicago, Ill.

Illustrations of Ornamental Street Lighting

A collection of separate sheets of half-tones of street lighting in various cities, and of lighting units, showing the use of Alba ornamental globes. Macbeth-Evans Glass Company, Pittsburgh, Pa.

Lighting Standards

A hanging poster featuring 32 designs for street lighting standards manufactured by the King Foundry Company, St. Joseph, Mo.

The Correct Method of Testing Water-Meters

Card on the above subject, issued by the Thomson Meter Company, 100 Bridge Street, Brooklyn, N. Y.

Crescent Water-Meters

Illustrated booklet about this type of meter, showing also the "Cincinnati" duplex piston meter. The American Valve and Meter Company, Cincinnati, Ohio.

Luten Design Bridges

Booklet containing construction views of the more important reinforced concrete bridges of Luten design under construction in the spring of 1915. Daniel B. Luten, Indianapolis, Ind.

Methods, Materials and Appliances

News from Engineers, Manufacturers and Supply Houses

A Lawn Mower That Runs Itself

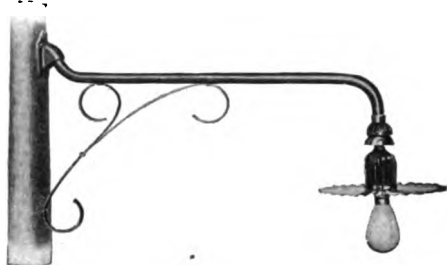
The accompanying photograph shows one of the power lawn mowers manufactured by the Ideal Power Lawn Mower Company, of Lansing, Mich., at work in a park in Oswego, N. Y. This machine has a single-cylinder, air-cooled gasoline engine of 2 horse-power, and

weighs about 850 pounds. It has a 35-inch cut and operates at a speed of about 3 miles per hour, with no difficulty on grades. An attractive pamphlet illustrating and describing the use of this mower is published by the manufacturers. The machine fits in between the light hand mower and the extremely heavy machines, and its weight is just right to make a good roller for the turf while it cuts the



POWER LAWN MOWER AT WORK IN AN OSWEGO PARK

Westinghouse-Mazda Street Lighting Fixtures fulfill every practical application.



Street Hood with 22-inch Reflector with Scroll Style Bracket and Pole Plate

Street Hood for Bracket Suspension

with 22-inch, one-piece reflector for lamps up to and including 400 candle power. May be used with outside or concealed wires, plain or ornamental brackets, as shown below, fitted with film cut-out or reactive coil.

Street Hood for Cable Suspension

with 18-inch, two-piece reflector for lamps up to and including 250 candle power. This reflector is enameled inside and outside to prevent rusting. Adjustable clamps on the ends of the side arms allow the hood to be made to hang vertically regardless of the angle of the suspension wires.

Goose Neck Brackets

for external wiring. Simple, inexpensive and durable. Illustrated with Bracket Type Street Hood, two-piece reflector and wire lamp guard.



Street Hood for Cable Suspension—18-inch Two Piece Reflector

Scroll-Type Brackets

for concealed wiring, to meet the demand in residential districts for concealed wiring street hoods in connection with underground wiring. May also be used for external wiring.

Luxsolite Fixtures

are particularly designed for Mazda C lamps of high candle power, used for street and industrial lighting. The case is solid copper finished in black enamel. It is interchangeable for either a film cut-out socket, a multiple socket, or for an auto-transformer with multiple socket.

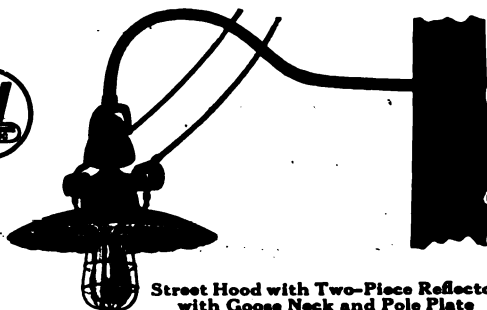


Luxsolite Fixture, with Reflector

Westinghouse Electric & Mfg. Co.

EAST PITTSBURGH, PA.

Sales Offices in All Large American Cities



Street Hood with Two-Piece Reflector with Goose Neck and Pole Plate

grass. Hardly any muscular effort is required to operate it. The handles are used like those of a plow, to guide the machine, and the control of the motor lies under the operator's hand all the time it is running. It turns corners easily and works closely and carefully around shrubbery, trees and flower beds. It costs for oil and fuel only from 20 to 25 cents a day.

✦ ✦

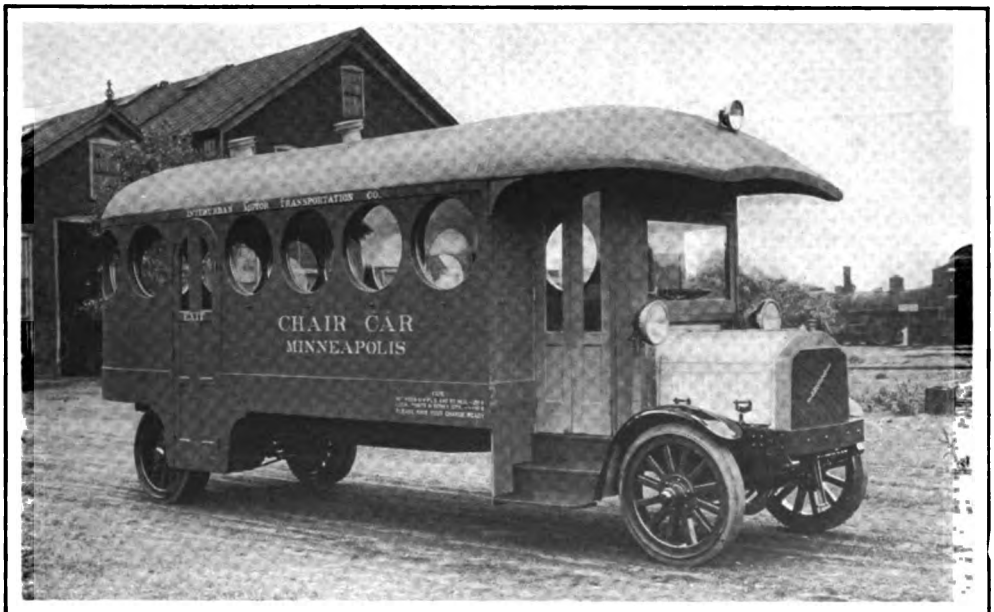
Comfort in Interurban Travel

Two views are given herewith of the new type of motor omnibus made by the McKeen Motor Car Company, of Omaha, Neb. This car is known as the McKeen highway coach, and it is intended exclusively for urban and interurban travel on paved and macadam streets. The chassis is the same as that of a $3\frac{1}{4}$ -ton gasoline motor truck. The round windows—plate glass, air-tight, dust-proof—when open are secured to the ceiling. Exhaust suction ventilators on the roof maintain a constant circulation of air. The coach is electrically lighted, and is furnished with push buttons between the windows for signaling the driver. The mechanism which operates the entrance and exit doors is controlled by the driver, and no conductor is needed. Passengers enter



INTERIOR OF THE McKEEN HIGHWAY COACH

through folding doors beside the driver, the prepayment fare collection being under his supervision. The outward-folding exit doors are in the side near the rear. The car draws up to the curb to take on passengers, and the initial step from the curb is approximately 7 inches. The individual revolving chairs with which the coach is equipped are an important feature. Each has a pneumatic shock-absorbing cushioned seat, the resiliency of which is obtained by four air cushions differentiated on each other and operating in conjunction with a



THE McKEEN HIGHWAY COACH FOR INTERURBAN TRAVEL



Design No
3023-1 (A)
for Nitrogen
Lamp.

MORRIS

ORNAMENTAL
STREET LIGHTING

HERE in New York MORRIS ORNAMENTAL STANDARDS have the approval of the Municipal Art Commission — and in other cities recognition of equal distinction.

MORRIS STANDARDS are cast iron—"granite-like" in structure—and resist weathering action for all time.

Over 1,000 Designs
Ask for Catalogue

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Representing
CENTRAL FOUNDRY COMPANY
Operators and Sole Owners of Foundries at

Aniston, Ala.	Holt, Ala.	Bessemer, Ala.
Medina, N. Y.	Newark, N. J.	
Vincennes, Ind.	Baltimore, Md.	

M-65

Good Street Lighting

is largely a matter of the right glassware.

Alba


Ornamental Balls

are used in 90% of the cities that have ornamental street lighting.

Information on request

Macbeth - Evans Glass Company

Pittsburgh



Effective Street Lighting

For the best possible street light we can highly recommend this standard. It is the best possible street ornament by day, and there is no better standard manufactured for even street illumination at night.

The lamps have been placed at the correct distance from centers by our engineers to obtain the best results as a lighting standard.

The casting is manufactured from especially prepared and mixed iron, non-corrosive and indestructible.

We make many designs. These are shown in our catalogue which we shall be glad to send you.

The Casey-Hedges Co.
CHATTANOOGA, TENN.




VISITORS WELCOME

Our plant is open to visitors at all times during working hours, excepting Saturdays. All processes will be cheerfully and carefully explained by competent guides.

Parties from schools, colleges and societies particularly welcome.

SIMPLEX WIRE & CABLE CO.

Manufacturers
201 Devonshire St., Boston
Chicago San Francisco

2-foot spiral steel spring. These seats are said to positively insulate the passengers from concussions incident to street imperfections. Adequate heating is obtained from the waste product of the gasoline engine, there being twice the necessary heat units available for maintaining the proper temperature of the car interior in the coldest winter weather.

+ +

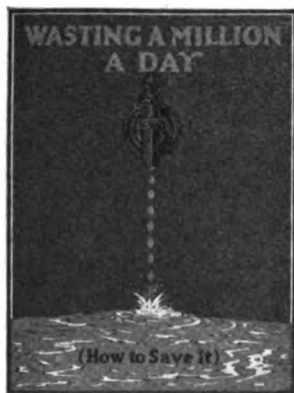
A Tractor for Fire Department Use

The tractor-drawn steam fire engine shown on page 427 of this issue was equipped for the city of Philadelphia by James Boyd & Bro. This tractor, which will be placed in service with Engine Company No. 19 in Germantown, is one of five which the same company is building for Philadelphia. During its acceptance test it was tried on some of the steepest hills and roughest roads in that locality. A tractor of the same type is being built by the Boyd Company for the city of Pittsburgh. There are only five main driving parts in the tractor, and the worm and gear type of drive is employed on account of its efficiency in heavy-duty trucks.

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"Wasting a Million a Day"

An effective quarto catalogue has been issued by James B. Clow & Sons, of Chicago, under the above title, with the stated purpose of showing the economy of water-saving devices in sanitary plumbing. The cover of the catalogue is herewith reproduced, and tells its own story of the leaky faucet that causes such enormous losses. The same truth is emphasized throughout the catalogue—by pictures of



imperfect, leaking pipes, by reports of water waste in specific cities on account of defective fixtures, and by well-displayed contrasts between unsatisfactory and satisfactory pipes and plumbing equipment. Toilet fixtures of various types, lavatories, wash sinks for shop and factory, shower baths with their floor drains and traps, bubble drinking fountains of many designs, and many kinds of faucets are

all illustrated and described. Radiators and equipment for hot water heating systems, the Clow "Temperature Booster," water tube heaters and boilers, are dealt with in another section of the catalogue. The Clow Marble Mill, producing marble for toilet room purposes, bank interiors, lobbies, restaurant counters, etc., is also presented. A great variety of small foundry products are shown, including several types of lighting posts and brackets.

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One Order Pulls Another

A picture of the second fire truck purchased by the city of Wellsville, N. Y., from the Lipard-Stewart Motor Car Company, of Buffalo, N. Y., is shown on page 426 of this issue. The second purchase is said to have been warranted by the good service given by the first car during its two years of use. The car is equipped with chemical tank, chemical hose, extinguishers, extension ladder, axe and crowbar.

+ +

Testing Meters in Series

Among the pieces of new apparatus shown at the recent convention of the New England Water Works Association was the No. 4-A meter testing machine made by the Ford Meter Box Company, of Wabash, Ind. This machine is based upon the series method of testing water meters, which is rapidly gaining precedence for ordinary meter tests because of the large saving of time afforded. The No. 4-A machine referred to has a capacity of one 1-inch and three 5/8-inch or 3/4-inch meters, and a calibrated outlet strip is provided by means of which a stream of any size may be passed from 1/32 inch to one full inch in ten steps. Each meter may be inserted in the series or removed from it independently of the others, and an ingenious means is provided for adjusting the meter to zero or other figure without disturbing the balance. These machines created quite favorable comment at the recent convention.

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The Fire Engine of the Future

In connection with the illustration of the test of a motor pumping fire engine by the fire department of the city of New York, which was given on page 339 of the October issue of THE AMERICAN CITY, the following letter is of interest. It was written to the manufacturers, The Ahrens-Fox Fire Engine Company, of Cincinnati, by John Kenlon, chief of the department:

"Replying to your inquiry of even date, it pleases me very much to say that the motor pumping engines delivered by your company, finishing a 12-hour test here in New York, with a perfect score, are, in design, mechanical finish, etc., as fine a piece of fire apparatus as I have ever seen. If the builders of motor apparatus continue to progress in the near future as they have during the past two or three years, it is my opinion that there will be no more steam fire engines built or bought in this country."



MARION COUNTY COURT HOUSE
Bloomington, Ind.
MAHURIN & MAHURIN, Architects, Ft. Wayne, Ind.

Public Buildings

should be equipped with Toilet Facilities which are sanitary, sightly and durable.

CLOW Madden Patent **AUTOMATIC** **Closets and Urinals**

**Save 50 to 80%
of the Water Bill**

They have been selected for many Public Buildings as most satisfactory in service, most pleasing in appearance, and most effective in economy. Clow Automatic Closets insure a thorough flushing of the bowl and a great reduction in maintenance. The Clow Automatic Urinal is always reliable, and positive in its action. Its merits will reward investigation.

JAMES B. CLOW & SONS

Established 1878

Harrison Street Bridge, Chicago

Sales Offices
New York Milwaukee St. Louis Kansas City
Minneapolis Los Angeles San Francisco

Works:
Chicago Newcomerstown, Ohio. Coshocton, Ohio

Artificial Daytime

As the sunlight fades away, the ornamental lighting systems in hundreds of cities flash on — brightening streets and boulevards — driving away darkness — extending daytime five to eight hours.

CUTTER Standards

have helped to establish artificial daylight in many cities in all climates.

Our posts are built from experience gained through twenty-five years serving the public in cities throughout the country. We have been building the very highest quality of lighting fixtures and giving, always, adequate service.

An Engineering Department has been installed to further assist you in planning for better lighting in your city. We will be glad to give you help gratis.

Write for our new catalog No. 13, showing our latest designs for High Efficiency Mazda Lamps.

Geo. Cutter Co.

413 Notre Dame St.
South Bend, Ind.



For Contractors and Boards of Public Works



THE EUREKA SNOW PLOW

For Municipal Snow Removal

The snow plow shown in the accompanying photograph is the No. 3 Eureka made by W. M. Toy & Co., of Sidney, Ohio. It is built entirely of high-carbon steel and has 24-inch wings of $\frac{1}{4}$ -inch steel, which will clear a path from 2 to 8 feet wide, turning the snow entirely off the walk in such a way that it will not fall back into the path. The center beam is made of 4-inch eye-beam, bent to shape and reinforced with steel sole and 6-inch track plate, and will permit the plow to pass over a 6-inch curb without the driver dismounting. The wings are hinged to the center beam with heavy hand-forged hinges, and are detachable. Only one side is necessary for cleaning gutters to allow the surface water to drain off. The plow is equipped with a spring seat and a singletree, ready for use.

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Breakage Without Benefit

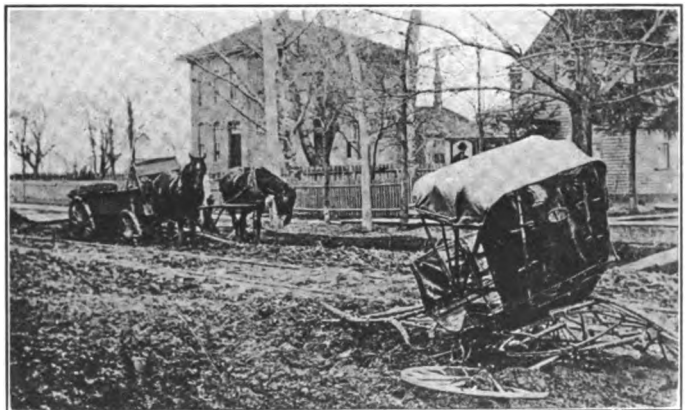
In an interesting pamphlet on "Road Construction and Maintenance," published by E. I. du Pont de Nemours Powder Company, of Wilmington, Del., there is an illustration which shows how the cost of a good road

may be paid out in making good the breakage resulting from a bad road. This photograph is herewith reproduced. It is well said, in this pamphlet, that of all classes of people the farmer is the most dependent on good roads. They are essential to the satisfactory marketing of his products, the hauling of supplies, and his pleasure. Poor roads mean either a higher cost or a material curtailment of all his activities. The wear on automobiles and horse-drawn vehicles from bad roads is stated to be enough to keep in repair the main highways and the important branch roads. The farmer pays for good roads in his repair bills without having the advantage of easy travel.

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A Motor Vacuum Cleaner for Catch-Basins

Among the many motor vehicles owned by the Metropolitan Borough of Chelsea, England, is a vacuum cleaner used in emptying catch-basins. This machine is hired from and made by Leyland Motors, Ltd., of Leyland, Lancashire. It is reported by the official surveyor to have effected great saving in the cost of the work. A photograph of the latest type of the cleaner is reproduced on page 425. During the last financial year of the Borough, this vehicle worked 3,208 hours and carried 776 loads of liquid waste, equivalent to 3,871 cubic yards. It is operated by three men, and supplants the revolting system of ladling the waste out of the catch-basins in what may be called huge spoons. Both cleanliness and economy are attained by its use. The vacuum tanks are generally steam-driven, on account of the simple way in which the vacuum can be formed by a steam ejector. If necessary, however, a mechanical exhaustor can be supplied on a petrol-driven vehicle. After the catch-



THE COST OF A BAD ROAD

THE AMERICAN CITY

MOTT LAMP POSTS



FAMOUS BOARDWALK, ATLANTIC CITY, LIGHTED WITH MOTT LAMP POSTS

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WITH
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SETTEES
VASES
RAILINGS
STREET
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basins have been emptied it is, of course, necessary that the traps should be refilled, consequently a tank wagon containing a disinfectant solution follows the vacuum vehicle, and thus the street drain is left in a healthy condition. The vacuum tanks can be, and often are, supplied with a small portion partitioned off from the main tank, which is filled with a disinfectant and used to pass the exhaust gas through on its way to the firebox, where it is burnt. With this arrangement the most offensive fuels can be dealt with without the slightest nuisance. The waste is conveyed to the wharf and emptied into barges. Similar machines are in use in London—for instance, in Kensington; also in the provinces, as in Bradford City, Nottingham; and in the colonies—for example, in Calcutta, which has recently ordered two more machines.

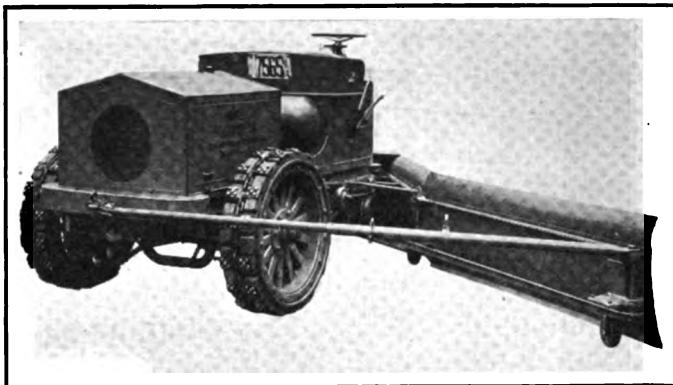
+ +

Motor Snow Plows and Sweepers

For two years the Mercury Manufacturing Company, of Chicago, has been building the Bulley tractor of both three- and four-wheel types. This machine is designed to exert a straight draw-bar pull after the manner of a locomotive, i. e., without carrying any part of its loads, and at the same time having the ability to get behind and push with equal force. The tractor has proven successful in handling long trains of trailers, pulling street sweepers, snow drags, snow scrapers, lumber wagons, and in other tractor work, and has developed into an ideal power unit for pushing snow plows. It exerts a pulling power more than that of six strong horses, and operates at speeds up to eight miles an hour.

The Mercury snow plow resembles the effective railroad plow more than the ordinary road scraper. It is flexibly attached to the power unit, rests upon its own wheels, and is free to articulate and conform with the road

surface, regardless of the position which the tractor may assume. The principal features of the machine are the method of attaching the plow to the tractor and the self-steering control. The plowing unit may be attached to the

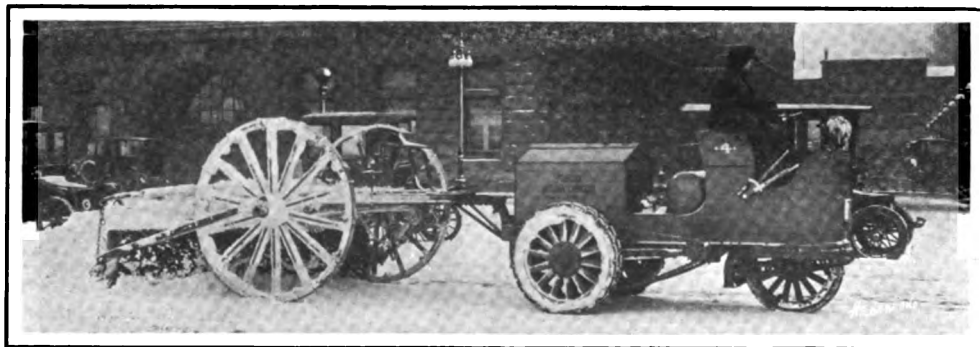


THE SNOW PLOW UNIT

tractor and ready for use in ten minutes, and detached in five, leaving the tractor free to perform its duties in hauling road vehicles.

The unit consists of a "V"-shaped main member properly formed to lift and displace the snow to the best advantage, and an arm, 8 feet long, attached to the right-hand rear of the "V"-shaped piece and easily adjustable, so as to increase or decrease the throw of the plow. The main member may be used without the extra arm. There is less than one-half of an inch clearance between the plow and the ground, which insures a clean street. The "V" end is fitted with a strong, tilted prow so that when an obstacle is met which cannot be plowed aside the plow either mounts over it or sheers to one side.

Two Bulley tractors, one equipped with the Mercury snow plow and the other drawing a snow sweeper, during a heavy snowfall in Chicago, mounted the wide sidewalk along Grant Park, plowed out a passageway and then swept the walk clean. When the snow first began to fall, the motor-drawn sweeper cleaned up Michigan avenue easily, but when the storm increased the plow and the sweeper worked together as above.



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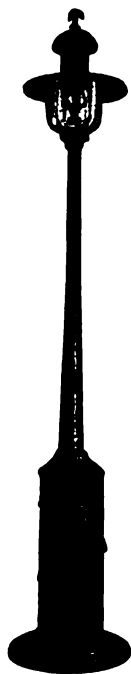
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Walt Mason on the Subject of Good Roads

Old Jabez Jimson joined the church, last time he was in town; he felt the pastor's sermon search his soul both up and down. He started home in pious mood; a glow was in his breast; no more he'd hand out language rude, or deal in sinful jest; his conduct would be mild and meek; if some one punched his ear, he'd turn to him the other cheek, and say, "just soak me here!"

His wagon to a mud hole came, and sank up to the hubs; old Dobbin wrenched his ancient frame, beneath a shower of clubs, but couldn't pull it from the muck; it settled there for keeps; and Jabez said, "Gosh darn the luck" and other things in heaps.



THE ALBRECHT EXCAVATOR

the scraper and one to run the machine. A 12-horse-power horizontal engine, of heavy-duty type, provides ample power to dig and load 20 cubic yards per hour. This machine will dig at a distance of 100 feet and at any desired depth for ordinary excavations, at the rate of about one round trip per minute. Plowing can be done faster than with horses, and loading as fast as 10 men can work. The machine will dig at any point above or below its level and over a big area covering almost a half-circle back of the machine. It can be used for excavating big foundations, basements and drainage ditches, for back-filling, and for loading sand, gravel and other similar materials. It is of interest to the contractor who handles street and highway paving, and it can be used to advantage on the ordinary roadway in place of the regular road scraper.

He sat and cussed the wagon wheels, the landscape and the mud; he cussed the horse's hoofs and heels, its spare ribs and its blood. He cussed all things that were in view, with language rich and red, until a cloud of sulphur hue was circling round his head.

Just then the pastor drove along, and he was badly jarred. He queried, "Brother, what is wrong—what makes you swear so hard? To-day you joined my little flock and said you'd pious be, and now the words you use would knock the branches from a tree. Your language grates upon my ear, my gentle soul it flays; come off, come off, O brother dear, and can these brimstone plays."

"When I reformed," old Jabez cried, "beneath your verbal goads, I quite forgot I had to ride along these doggone roads."—*Reprinted by permission of Atlas Portland Cement Company.*



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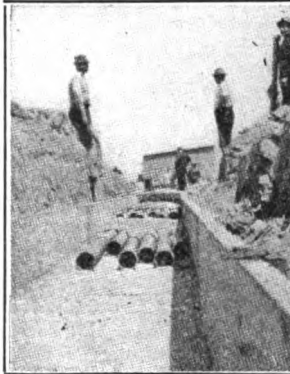
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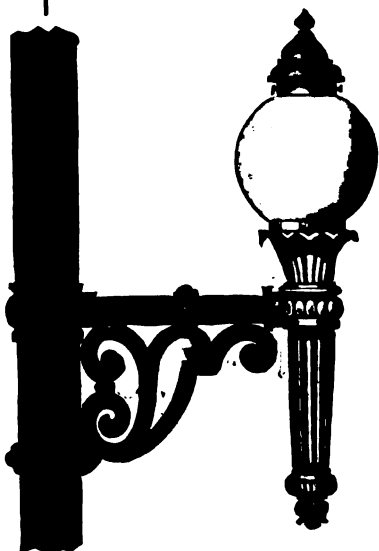
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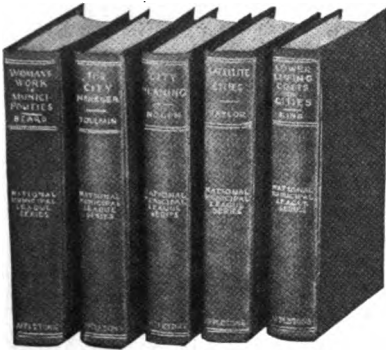


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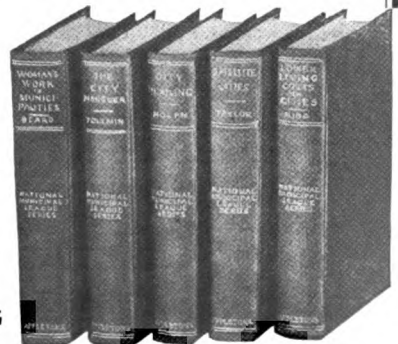
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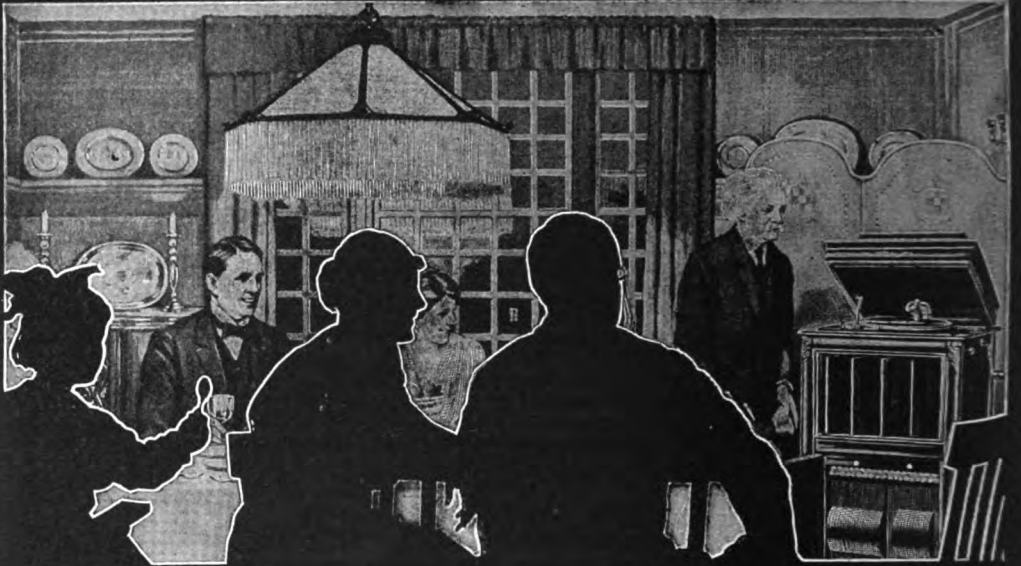
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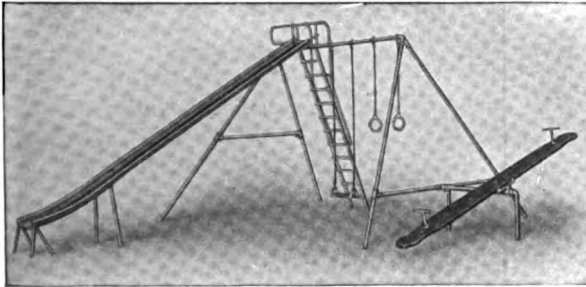
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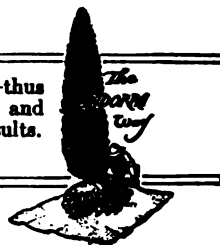
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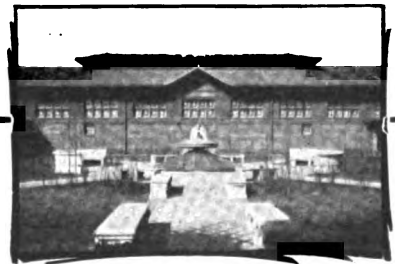


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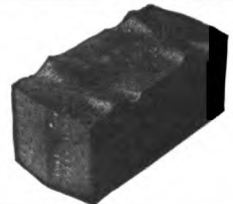
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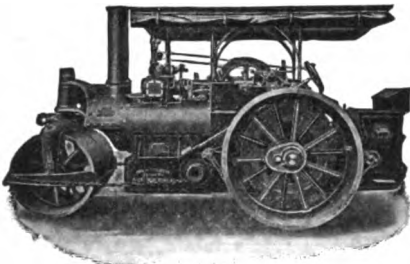
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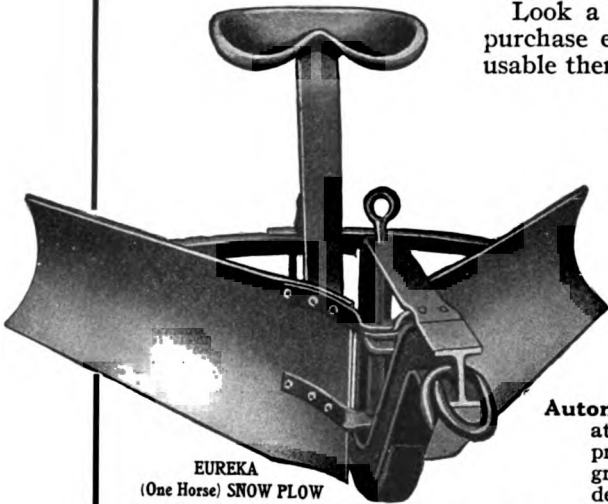
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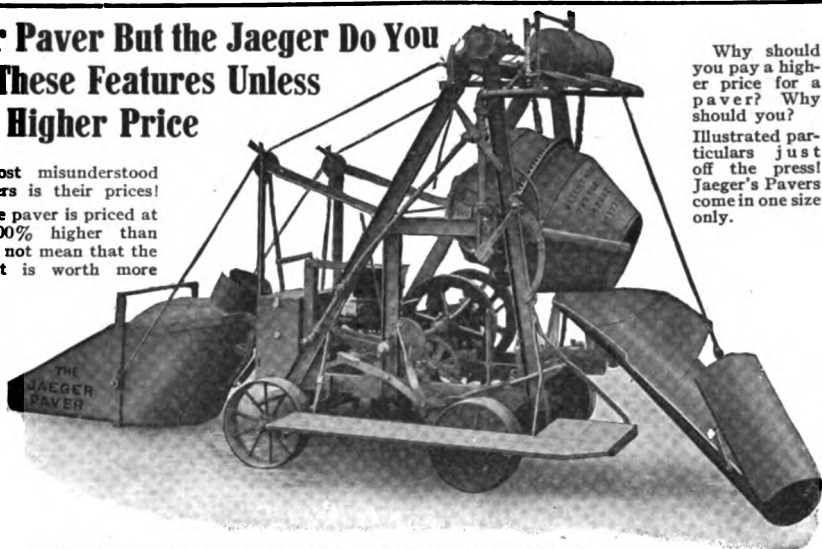
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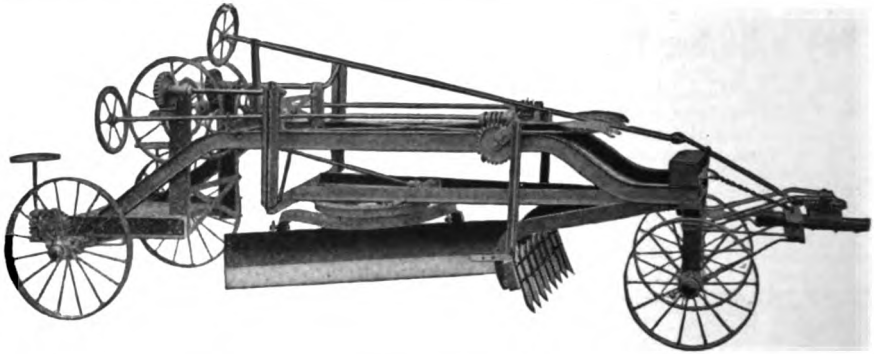


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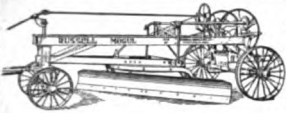
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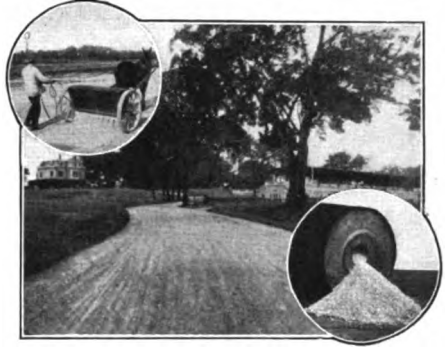


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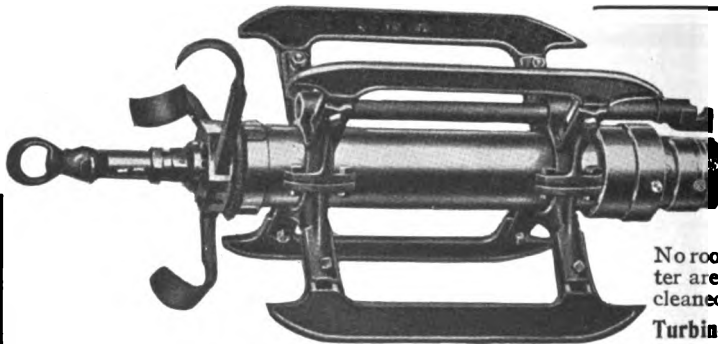
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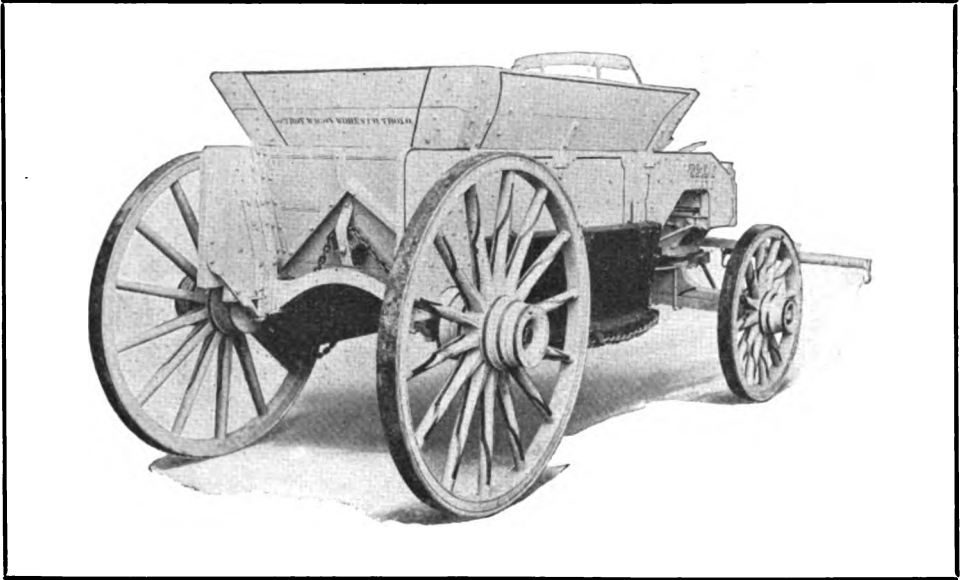
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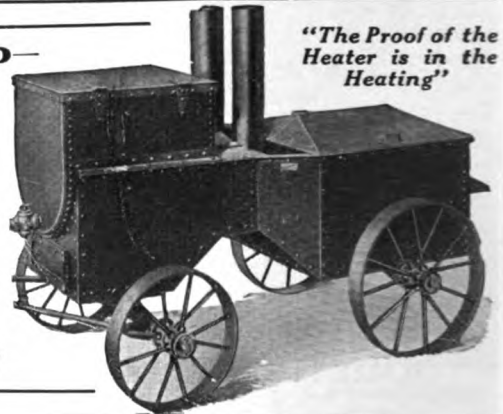
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of THE AMERICAN CITY, published monthly at New York, N. Y., for October 1, 1915.
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Managing Editor—Harold S. Buttenheim, 87 Nassau St., New York.
Business Manager—Edgar J. Buttenheim, 87 Nassau St., New York.
Publisher—The Civic Press, 87 Nassau St., New York.
Owner—The Civic Press, Inc., 87 Nassau St., New York.
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(Signed) Edgar J. Buttenheim Business Manager.
Sworn to and subscribed before me this fourteenth day of September, 1915.
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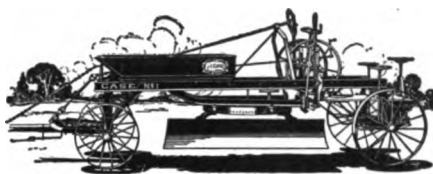
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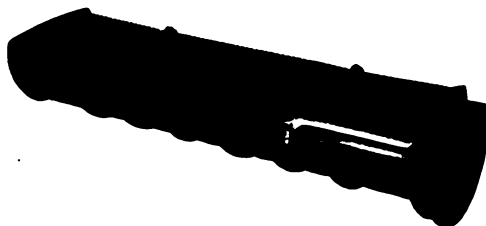
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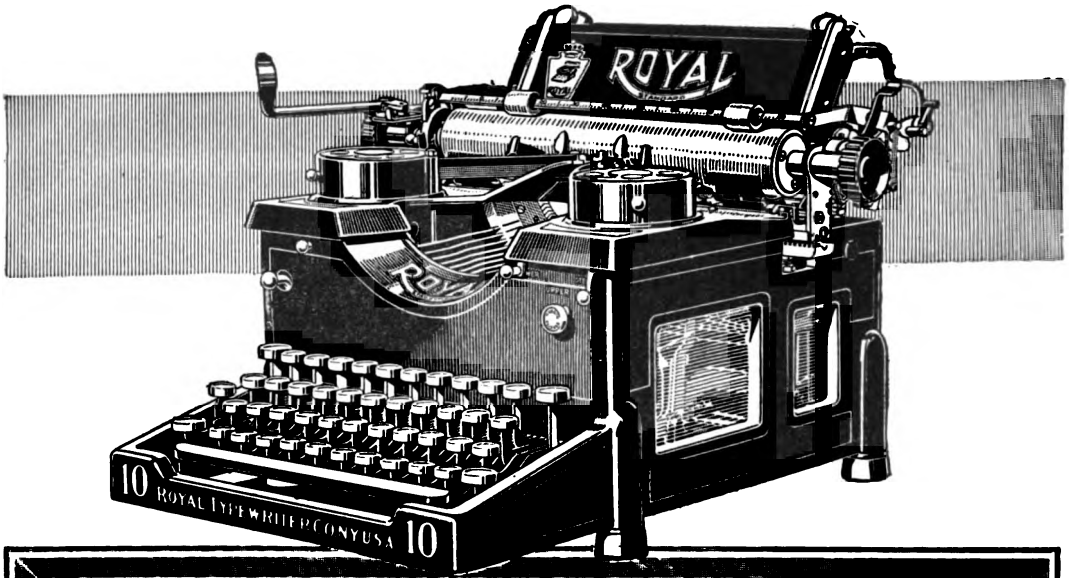
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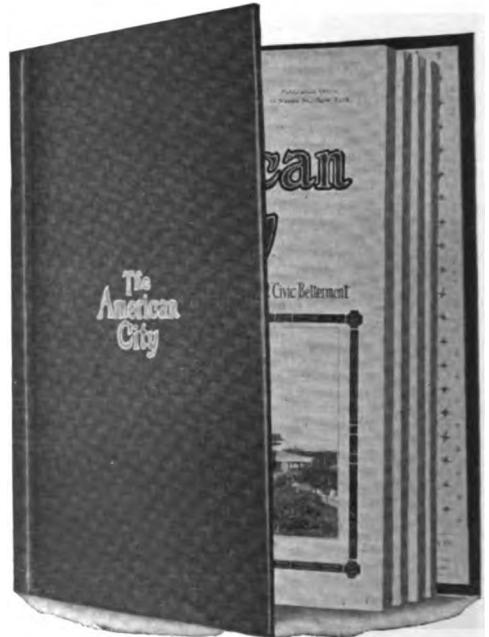
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Treated with "Tarvia-B."

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Detroit Birmingham Kansas City Minneapolis Salt Lake City Seattle Peoria
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The American City

A Monthly Review of Municipal Problems and Civic Betterment

A Big Part in the Success of the Movement for Scientific City Planning and Businesslike Municipal Management

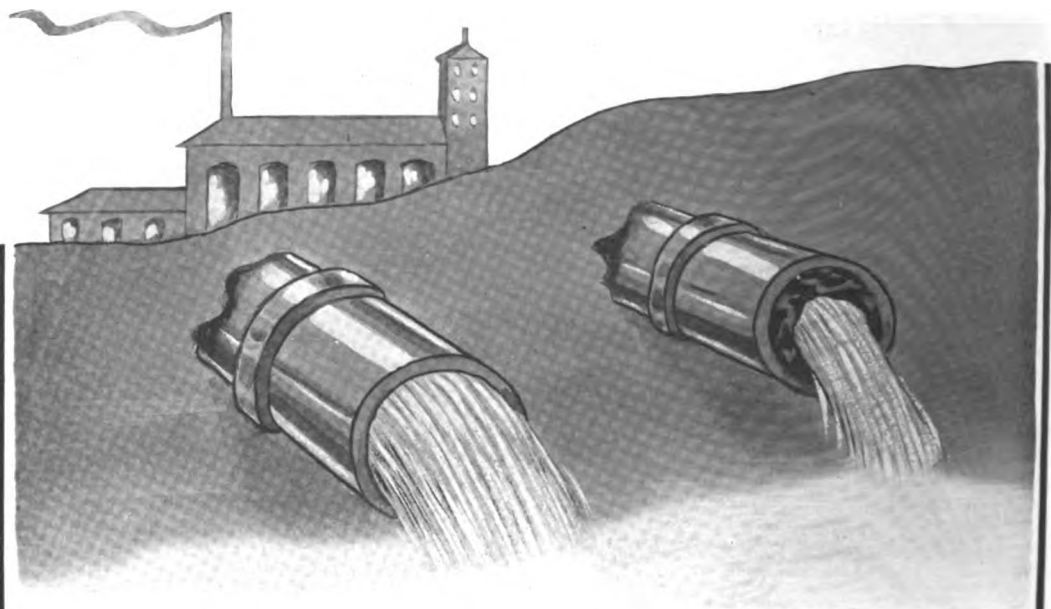
In the modern movement to encourage scientific city planning and businesslike municipal management, it is a matter of congratulation that there is issued regularly a dependable journal devoted to these subjects. The study of city government in recent years has been marked by the sort of vitality and enthusiasm that has every sign of permanence. I believe that we can say confidently that the old days of partisanship and corruption in city affairs have been pretty well passed by. Correct governmental methods, however, will not spread rapidly simply because they are correct; people must be told about them—the arguments that are going to make the new order must be well beaten in. For this reason, a periodical such as THE AMERICAN CITY is bound to play a big part in the success of the movement.

It has been a source of real personal satisfaction to me that a magazine with a mission of this kind finds a clientele numerous enough and loyal enough to make it such a live and helpful factor in present day city affairs.

GEORGE McANENY

President, Board of Aldermen, City of New York

Exceptional significance attaches to the foregoing letter. It was written by Mr. McAneny shortly before the announcement of his coming resignation from the presidency of the Board of Aldermen of New York City to become associated with Adolph S. Ochs in the management of The New York Times. The letter is, therefore, the opinion of a municipal expert of national reputation whose administrative and journalistic ability has brought him an important executive connection with one of the world's greatest newspapers.



Better Water Pressure Costs Less Money

It takes more energy to force water through mains which are clogged with dirt than through those which are clean. There is greater resistance caused by the incrustation in the pipe.

More energy means more coal. More coal means higher pumping expense. Yet, the result of all this cost is *low water pressure* and a *menace to fire protection*.

Clean water mains offer less resistance to the pumps and the pressure is strong and steady.

The National Method

of cleaning water mains removes all the dirt which clogs them.

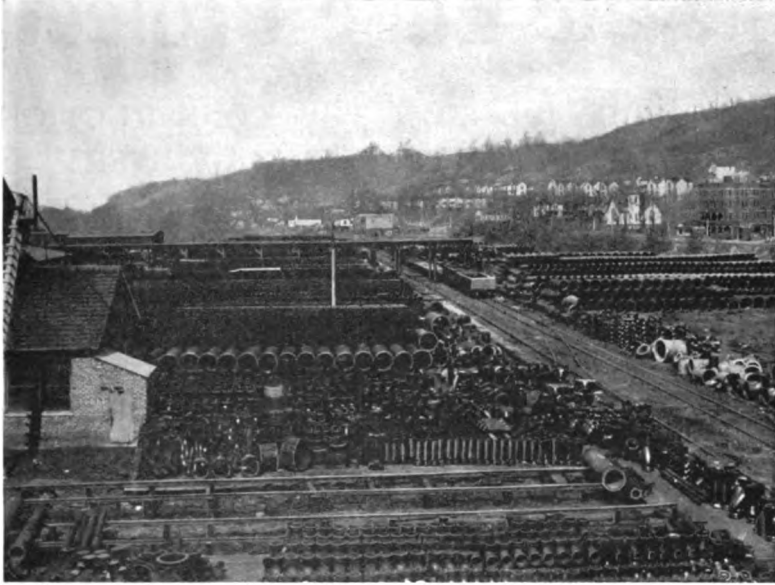
It makes them like new—brings back their full carrying capacity. And, the cost for this rejuvenation is small compared with the continually high pumping expense caused by the dirt in the pipe.

Find out now how we can help cut expenses

National Water Main Cleaning Co., Hudson Terminal Building
NEW YORK CITY

THE AMERICAN CITY

AN IMPORTANT ASSET:



Last month, on this page, we defined our conception of **"Service."**

The above view illustrates a portion of our Addyston (Ohio) Stock Yard, and may serve to emphasize the exceptional nature of our facilities for serving you. Large productive capacity means prompt handling of orders for heavy tonnages—and equally, adequate stocks such as shown above insure prompt shipments of small routine orders for standard material.

All types and sizes, 2-inch to 84-inch.

FOR QUICK SERVICE

U.S. CAST IRON PIPE AND FOUNDRY CO.

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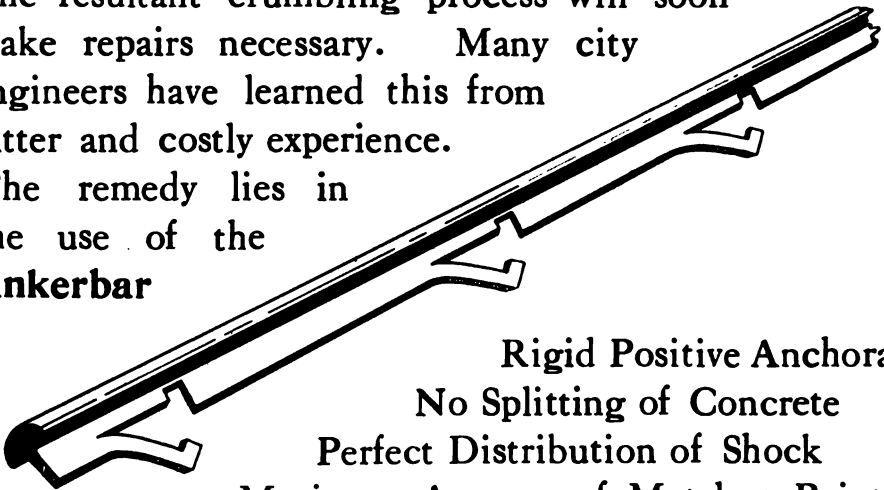
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Concrete Edge Protection

THE PRINCIPLES IN THE CONSTRUCTION
OF OUR ANKERBAR EMBODY EVERY
KNOWN FEATURE TO OBTAIN A
PERFECT CURB BAR

Every time a heavy vehicle hits an unprotected concrete curb, the impact causes the edge to chip or crack off. The resultant crumbling process will soon make repairs necessary. Many city engineers have learned this from bitter and costly experience.

The remedy lies in
the use of the
Ankerbar



Rigid Positive Anchorage
No Splitting of Concrete
Perfect Distribution of Shock
Maximum Amount of Metal at Point of
Exposure. The installation, with our new hanging device and guide, guarantees a saving in labor.
Perfect alignment, straight or curved.

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HOBOKEN, N. J.

THE AMERICAN CITY

Published Monthly by The Civic Press, 87 Nassau St., New York

EDGAR J. BUTTERHEIM, President

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From recent press reports

New Water Main Completed

Portland, Ore.—Work on the 30-inch reinforcing water main laid to the Vernon standpipe has been completed. The laying, with derricks, was accomplished without mishap. Each section weighed two tons and was 12 feet long. The cost of the main was approximately \$160,000. The accompanying illustrations show the sections along the right of way and the pipe in the treuches.

A City That Refused to Mortgage Its Children

WHEN the citizens of Portland, Oregon, faced the need for this line of 30-inch pipe they turned a deaf ear to the arguments of cheapness (?) advanced by the manufacturers of substitutes for Cast Iron Pipe.

These taxpayers knew that Cast Iron Pipe made more than 250 years ago is still in use, as good as new, and that no Cast Iron Pipe has ever been replaced because of having rotted out, rusted out or worn out, under normal conditions of service.

They also knew, from their own experience and that of other cities, that no substitute for Cast Iron Pipe has ever been known to last unimpaired in the ground more than twenty to twenty-five years (in many cases not more than five to ten years).

And so these wise citizens refused to pass the burden of replacement on to their children—they installed Cast Iron Pipe—the Pipe of Centuries Service.

The following makers of Cast Iron Pipe and Fittings are independent of each other and competitors; inquiries may be sent to any or all of them with assurance of prompt and full response:

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Emaus, Lehigh Co., Pa.
Glamorgan Pipe & Foundry Co.
Lynchburg, Va.

Lynchburg Foundry Co.
Lynchburg, Va.
Massillon Iron & Steel Co.
Massillon, Ohio



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Dock Builders and Contractors' Supplies
PLAIN AND GALVANIZED

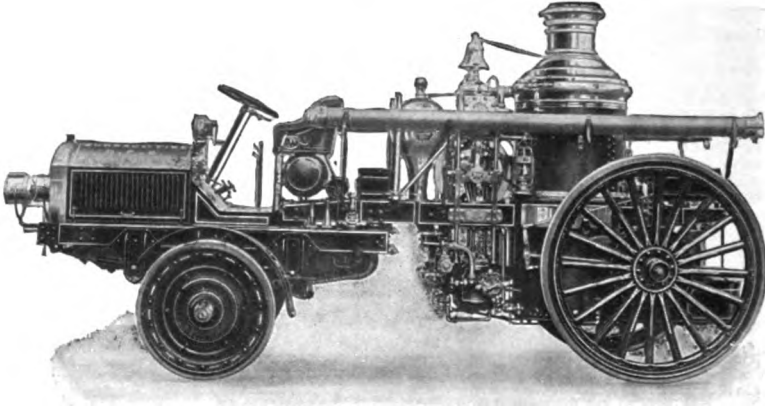
ORNAMENTAL LIGHTING STANDARDS
Manhole Heads, Catch Basins, Manhole Steps, and gray iron castings of every description

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FLEMINGTON, N. J.

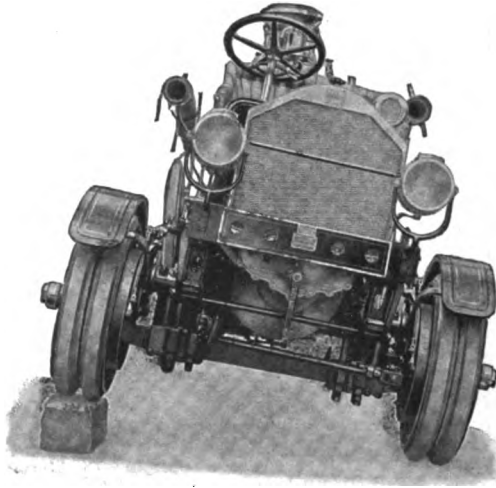
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Two Wheel Front Drive Tractor



Especially Adapted to Steam Fire Engine Attachment



Fitted with oscillating connection when placed on steam fire engine which prevents twisting strains in frame of steam fire engine and tractor when negotiating uneven streets or roads. This prolongs life of steam fire engine as well as tractor.

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THE AMERICAN CITY

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Sound Business Accounting for Municipalities—

To have complete, accurate and prompt information about financial conditions in your city, you must have an efficient accounting system.

Our experience with municipal accounting systems in many cities qualifies us to help you solve the financial problems of your community.

Let us send you our booklet, "Sound Accounting." It will interest you.

Clinton H. Scovell & Co.

Certified Public Accountants
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Steamer Bldg., Springfield, Mass. Woolworth Bldg., New York



Loper Fire Alarm Co. STONINGTON, CONN.

Manufacturers of

**Compressed Air Fire Whistles
Whistle Blowers
Bell Strikers, Boxes, Gongs
Etc., Etc.**

Estimates Cheerfully Given

FIRE DEPARTMENT SUPPLIES

Larkin Shut-Off Nozzles, Automatic Relief Valves, Play Pipes, Siamese Connections, Buckley Hydraulic Expanders, Supplies of every description for Fire Departments.

**LARKIN MANUFACTURING CO.
DAYTON, OHIO**



Water Gates & Fire Hydrants

BUILT FOR UTILITY AND DURABILITY

Write for Booklet

PRATT & CADY CO., INC.

HARTFORD, CONN.





Pneumatic and Solid Rubber Tires

For Horse or
Motor Driven
Fire
Apparatus

Firestone means *getting there*—it is the secret of complete Fire Department service. You who have fine men and perfect mechanism demand the co-operation which only Firestone Tire equipment gives.

Resiliency, reliability, and that freedom from repairs which means so much saving on the expense books—these are Firestone *facts*.

Write for catalog and reference list. Nearly 400 biggest cities and towns use Firestones.

Firestone

TIRE AND RUBBER COMPANY

"America's Largest Exclusive Tire and Rim Makers"

AKRON, OHIO

Branches and Dealers Everywhere

Proposal and For Sale Notices, Help Wanted and Situation Wanted Advertisements, Etc.

MONT CLARE BRIDGE OVER SCHUYLKILL RIVER

Sealed proposals will be received by the Commissioners of Montgomery and Chester Counties, at the County Commissioners' Office, Norristown, Pennsylvania, until 10 A. M., December 21, 1915, for the construction of a reinforced-concrete arch bridge of five spans over the Schuylkill River, connecting Phoenixville and Mont Clare, Pennsylvania.

The plans and specifications, including form of proposal and bond, may be seen at the County Commissioners' Office at West Chester, Pennsylvania, and at the offices of "Engineering News" and "Engineering Record," in New York City.

Copies of the plans and specifications may be obtained from the Consulting Engineer, B. H. Davis, Whitehall Building, No. 17 Battery Place, New York City, upon deposit of Twenty-five (\$25) Dollars, which sum will be refunded upon the return of all papers in good condition.

Each proposal must be accompanied by a certified check drawn to the order of the Commissioners of Montgomery and Chester Counties for the lump sum of Five Thousand (\$5,000) Dollars, and by a guaranty signed by an acceptable surety company, in separate enclosures, that the bidder will, if awarded the contract, enter, within ten days, into a contract, and furnish satisfactory surety company bond for the construction of the bridge.

The certified checks of the unsuccessful bidders will be returned as soon as the contract is awarded. A satisfactory surety company bond for seventy-five (75%) per cent of the contract price will be required of the successful bidder.

All regular proposals accompanied by certified checks and guaranties in separate enclosures, received at 10 A. M., will be publicly opened and the bids tabulated at 11 A. M., December 21, 1915, in the County Commissioners' Office, Norristown, Pennsylvania. The right is reserved to reject any and all bids or parts thereof not deemed to the advantage of the Counties.

JOHN N. JACOBS,
Controller of Montgomery County.
ISAAC Y. ASH,
Controller of Chester County.

SEWAGE DISPOSAL PLANT

MASON CITY, IOWA.

Sealed proposals will be received by the City of Mason City, Iowa, addressed to the City Clerk of said City, up to 10 o'clock A. M. of the 6th day of January, 1916, for the furnishing of material and labor necessary to construct and complete a Sewage Disposal Plant for said City. Imhoff type of design, and to take care of approximately one million gallons (1,000,000) daily. Plans and specifications on file in the office of City Engineer of said city. Blank forms for bids furnished, on application, by the City clerk of said City. Certified check required in the sum of 5% of amount bid. Right reserved to accept or reject any or all bids.

J. H. McEWEN, City Clerk.

STREET IMPROVEMENTS

ANGOLA, IND.

Sealed proposals for 18,000 square yards of pavement for the improvement of North Wayne Street will be received at the office of the City Clerk until 1.30 P. M., December 15, 1915. Plans and specifications for the improvement are on file and may be seen at the office of the City Clerk, and copies of the specifications and bidding blanks will be mailed upon request. The City Council reserves the right to reject any or all bids.

ROY HIRST, City Clerk.
C. F. POWERS, City Engineer.

ASPHALTIC CEMENT

KANSAS CITY, MO.

Bids will be received by the Purchasing Agent, Kansas City, Missouri, up to 2 P. M. December 21, 1915, for furnishing asphaltic cement for a period of one year, estimated at 1,000 tons. Specifications may be obtained from the City Engineer.

POWER PLANT IMPROVEMENT

CLARKSDALE, MISS.

On Tuesday, December 14, 1915, the Commissioners of the City of Clarksdale, Miss., will open sealed proposals for furnishing the following materials:

- One (1) 350-hp. water tube boiler.
- One (1) guyed steel stack.
- One (1) 500-hp. open feed water heater with metering device.
- One (1) 30-g.p.m. centrifugal boiler feed pump with motor drive.
- One (1) 500-g.p.m. centrifugal motor driven water works pump.
- One (1) CO₂ and draft recorder with low efficiency alarm.
- Four (4) feed water regulators.
- One (1) one-half-ton electric delivery type truck.
- Industrial railway equipment to consist of the following:
- Two (2) one-ton, drop-side, steel charging cars.

- One (1) right-hand cast plate switch.
- One (1) three-ton cast plate, boiler room scales, with hand registering device.
- 500 ft. (single) 16-lb. rail, with four-bolt fish plates and bolts. The Commissioners reserve the right to reject any or all bids. Proposals must be in the hands of the City Clerk before 8 o'clock P. M. of December 14, 1915. Must be marked plainly, "Proposals for Power Plant Improvement."

Specifications on file at the office of the City Clerk, and copies may be had upon application there, or of the Consulting Engineer, W. G. Shurger Engineering Co., Meridian, Miss.

M. W. PURNELL, City Clerk.

Graduate Engineer, age 35, of good executive ability, wants position as City Manager, water superintendent or City Engineer. Has been city engineer and superintendent of water, street and sewer departments of small city, and in charge of reservoir and sewage disposal construction and design, and other municipal works for 10 years. Best references. Box 41, care THE AMERICAN CITY.

WANTED—Position of Manager of Light and Water Plant in a clean, live City of 5000 to 10000. I have a good record as a Municipal Manager and can produce results with your Plant. Age 35. Address Box 42, American City.

PARK EXECUTIVE

Cities desiring a competent, experienced park superintendent, engineer, forester, secretary or other park executive, can secure names of qualified applicants from

AMERICAN ASS'N PARK SUPERINTENDENTS
R. W. Cotterill, Sec. Seattle, Wash.

City Manager Wanted

for village of Westerville, Ohio. Position to be filled January 1, 1916. Applicants must give age, qualifications, reference and salary wanted.

Village has Municipal Water and Light Plant.

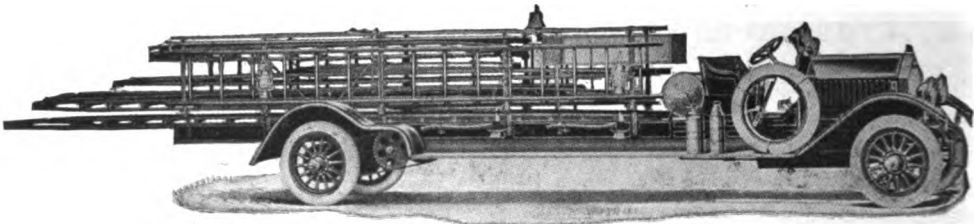
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We manufacture all kinds of motor-driven apparatus for municipal use—fire trucks, police patrols, ambulances or service trucks of the highest type of construction.

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Rigidity
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\$100 Saved in Fire Equipment May Cost a \$100,000 Fire Loss

That's why we try to see how well we can build the Ahrens-Fox Fire Engine—not how cheap. When fire equipment is called into service human lives and valuable property are at stake—so that the best equipment is none too good—and you get before-hand quality assurance when you invest in

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THREE PERFECT SCORES

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578 Cities

have found that there is only one tire for fire apparatus that has these essential advantages; Safety, Durability, Reliability, Economy and easy riding.

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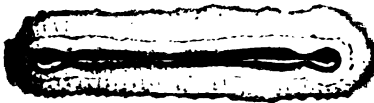


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Will not crack

There is nearly two and a half times the usual amount of service in Bi-Lateral Fire Hose. Judge for yourself:

The rubber lining is left free from its jacket in Bi-Lateral Hose where congestion takes place in hose of old construction. By allowing the rubber lining here its freedom, when the hose is flattened, the Bi-Lateral tube takes two curves at the points of fold, which relieves the compression (see illustration) whether the hose is flat or under pressure.

It is the most pliable hose made and can be flattened without injury.

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A Fire Hose

of unusually careful manufacture
Wax and Para Gum Treated

The lining is of fine Para Gum, hand made, four calendered, smooth bore or lap-jointed.

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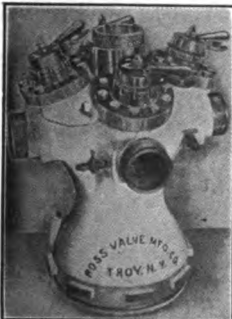
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Fire truck reliability is largely dependent upon the truck tires.

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Goodyear Anti-Skid Cushion Tires have the needed resiliency for speeds up to 35 miles per hour.

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The Gamewell system of to-day is the outcome of the combined inventive genius and mechanical skill of many whose valuable services the company has been able to secure during the past fifty-seven years, in pursuance of its policy of meeting at any cost the requirements of the varied conditions existing in different localities.

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**Frost-Proof
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All parts removable without digging up hydrant. Special device prevents street from being flooded should stand pipe be broken. Minimum expense to install and maintain.

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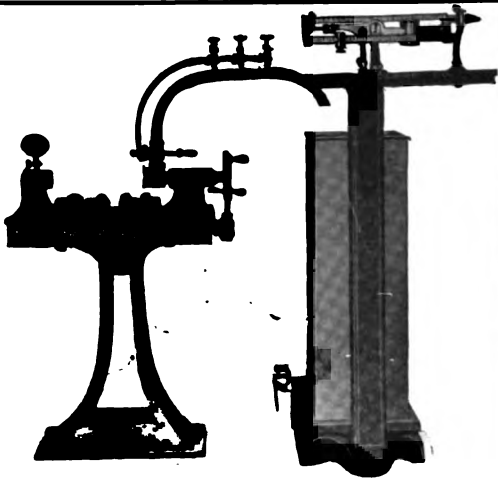
The Best Material for **CALKING**
Joints in Cast Iron Pipes is

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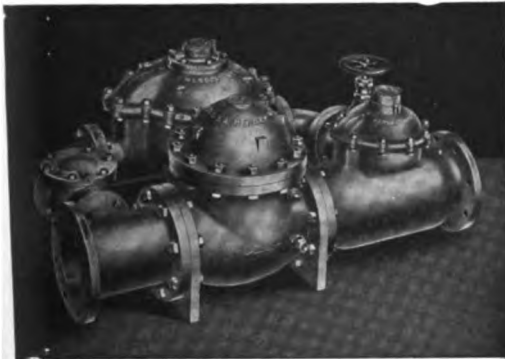
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THIS METER HAS BEEN ACCEPTED WITHOUT RESTRICTION
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IN MORE THAN 500 CITIES AND TOWNS
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FOR USE ON OVER 3,000 FIRE SERVICES

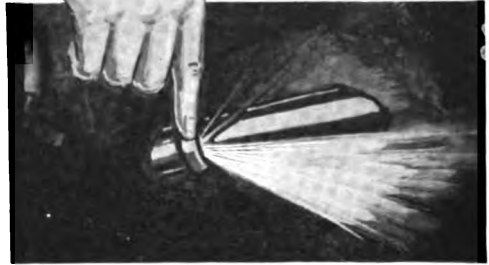
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ALL KINDS OF METERS FOR ALL KINDS OF SERVICES

Put Your Finger on Leaks



The leak shown above had been wasting
36,000 gallons of water daily. It flowed
from a blown joint beneath the surface of
the street into a sewer, and no one knew it.

The city water department, however,
believing that water was being wasted some-
where brought

The Pitometer

—an instrument for
detecting leaks in pipe,

to the scene. A survey of the water mains
discovered a large number of leaks—some
large and some small.

There may be leaks in your water pipe
which you don't know exist. Leaks, which
amount up to hundreds, perhaps thousands
of dollars a year in water wasted. These
can be stopped. Let the Pitometer find
them out for you.

Twenty-one cities have asked our advice
during the past year. We are willing to
assist you, too. Write for facts.

The "Cole" Recorder

recently developed is especially
designed for station use.

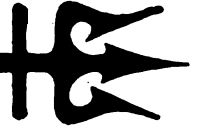
Operates under a New Principle

which guarantees its accuracy at
low velocities as well as high.

Write for booklet.

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A POINTER



If you are looking for mediocrity in water meters this pointer is not for you. But—if you want meters that excel in every particular, just notice what this pointer is pointing at.

It is this attitude on the part of the makers of the Trident meter—(that of not being satisfied even with their own best) which perpetually maintains such a distance between Trident meters and those of other manufacture.

Send us your name and the location of your office or residence so that we may be able to send you some new and interesting booklets about *water waste*—facts which may cause many in your community to sit up and take notice.

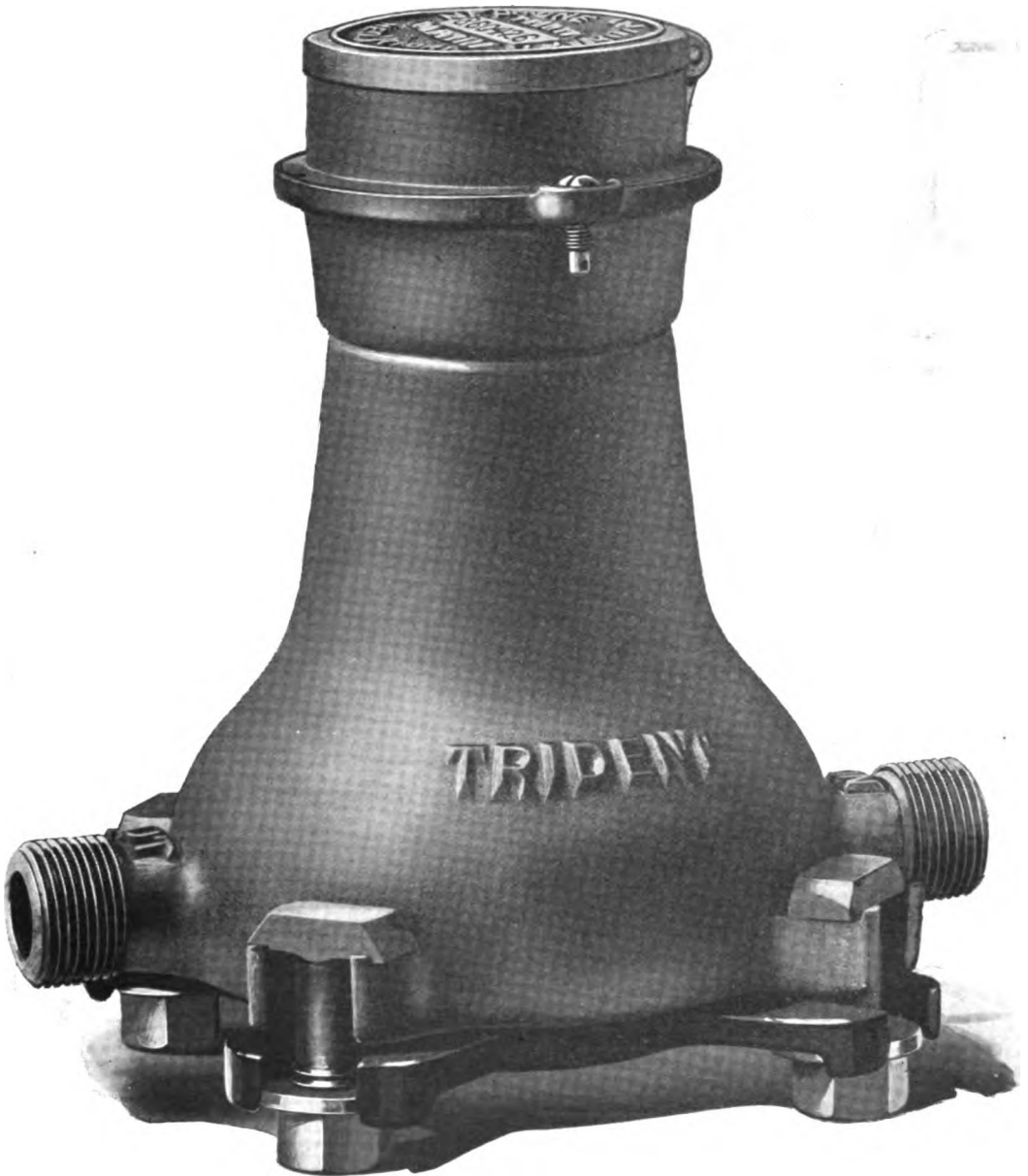


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THE AMERICAN CITY



BETTERING OUR OWN BEST

Like a ship tied up at a wharf or a piece of machinery that is out of commission, an organization that is thoroughly satisfied with itself and its product soon begins to suffer from internal rust and corrosion. Things will run themselves on the momentum gathered in earlier years and will continue to run for a long while, but sooner or later the bearings get so rusty that they seize and the whole machine stops. There is only one certain preventive of that undesirable state of affairs and that is, never to be completely satisfied either with your own efforts or their results. Regard each new achievement as merely a step toward the ideal you have set as your goal. This is the working policy of the Trident Factory organization and in carrying it out detailed refinements are made that sometimes appear unnecessary.

Look at the new Trident Register Cap pictured above. The one that preceded it was a perfectly good cap for the purpose. So good that it was thought worth while to put it on quite a few hundred-thousand Trident Meters. But the new one is a better cap. It has a circular flange which fits down over the edge of the register box and makes it dust-proof, and it has a better hinge. One without any upward projection, thus making the top of the cap flush. Of course, we needn't have scrapped the old pattern; it was a good one and it served for years. Beside, the new one is a more expensive cap to make. But it's a better cap; that's the answer.

When writing to Advertisers please mention THE AMERICAN CITY.



Spend \$45 Once— and Stop Losing \$450 Yearly

Do you realize that a water meter, like a watch or a clock, needs a certain amount of attention lest it lose its efficiency as a measuring machine?

In a circular which we have prepared, "The Latest Ford Story," we tell how, by the use of

The Baby Ford Meter Testing Machine

costing \$45, a water department with 500 meters in service may save \$450 a year, and departments with a greater number of meters may make still larger yearly savings.

The Baby Ford inspects one meter at a time, and tells in a moment whether or not it is doing its work properly.

This tester possesses all the high-grade workmanship and material which goes to make up other Ford products. Write us mentioning the American City and let us send you "The Latest Ford Story," it will interest you.

Ford Meter Box Co.

Wabash, Ind.



The Ideal Roadway Box

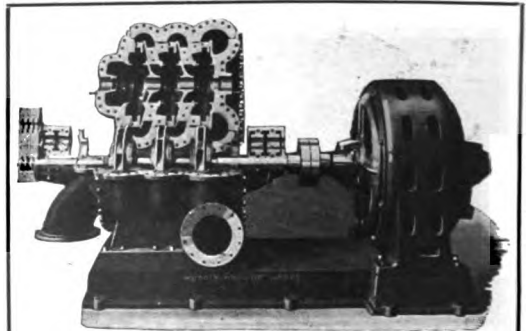
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By its sectional construction and adjustable top it is adaptable to any change in the street grade without the trouble and expense of digging up the street and resetting.

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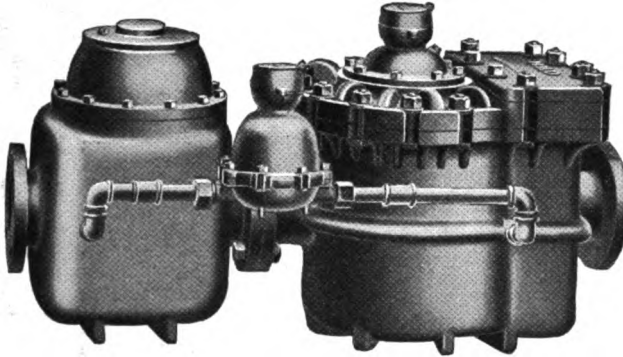
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Meets the demands of water works officials—

**A Combination Meter for measuring
both large and small flows correctly**



The Nilo Compound meter is a combination of the Nilo meter, a high-duty meter of acknowledged accuracy, durability and capacity and the King Disk meter which is unexcelled in accuracy on all flows within its capacity, together with an automatic double differential vertical valve, guided and united by a central stem.

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Incorporated 1888

Makers of Worcester Steam Gongs, Water Pressure Regulators, Water Works Fittings

AMERICAN AND NEW NIAGARA WATER METERS

Their Construction:

Dirt and Sand Proof
Submerged Bearings
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Only Seven Submerged
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is an absolutely reliable instrument for locating lost Gate Valves and Service Boxes.

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maintain a uniform stage of water in standpipes, reservoirs or tanks.

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No overflow in case of fire pressure. Valves closed by water or electricity.

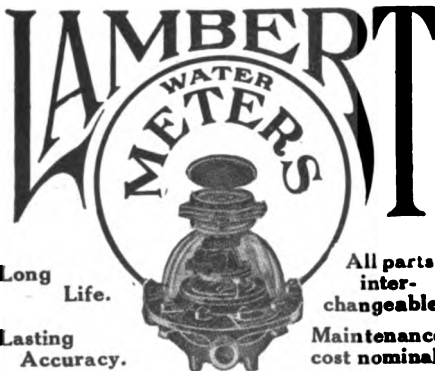
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AUTOMATIC VALVES
For Steam and Water Service

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Long Life.

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All parts interchangeable.

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Made in all sizes, $\frac{5}{8}$ " to 6", of best bronze Composition throughout, fitted with Unbreakable reinforced disc-pistons.

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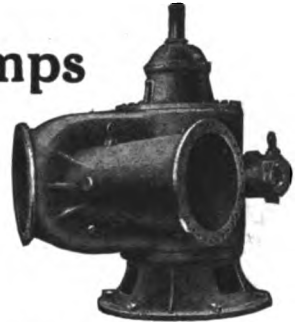
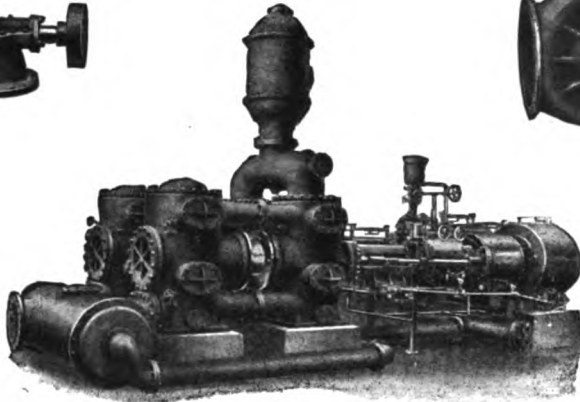
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NO CAULKING REQUIRED

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No large bell-holes to dig.

Trench pumping cost reduced to minimum.

1 lb. Leadite is equivalent to 4 lbs. lead.
Saves 50% to 65%.

Joints effective from yarn to face of bell.
Resists electrolysis and withstands vibration.

Big saving when going thru rock or bad ground.

Allows work to progress rapidly.

Saves time, money and labor.

Makes work easy on the men.

The up-to-date joint for bell and spigot pipe.

Used by water works all over the country.

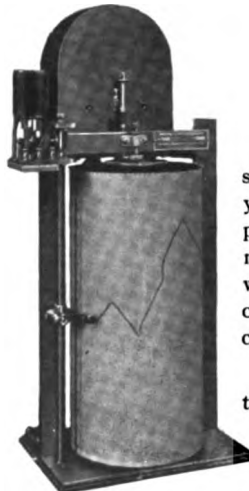
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This particular instrument placed in your office or power plant from one to five miles away from your water supply will record water levels accurately.

Let us give you details about it.

**A Chronograph
for Any Condition**

We make 19 types from which you can select the one which meets your problem. Write us for our booklet on the various types.

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Security Rods are made from second growth hickory, with malleable iron couplings swedged or shrunk down very tightly on to the curved places at end of sticks. Security couplings cannot come off.

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For General Service. Controlled solely by the discharge pressure from pump. Has removable seats, easily renewed when worn. Governor is guaranteed to give close, continuous service.

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GOVERNOR REQUIREMENTS**

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Chemicals for Water Purification

We manufacture the highest grade of

Sulphate of Alumina

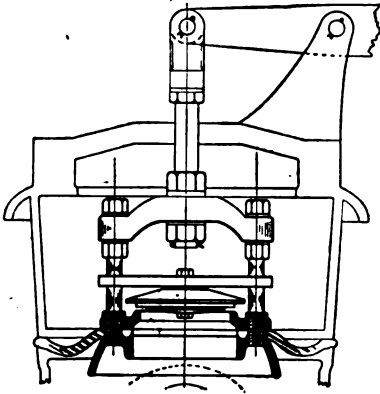
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Chloride of Lime

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Further Improvement

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Atlantic 4-inch Diaphragm Pump

because this pump sometimes splashed. It was found by experimenting that the splashing was largely due to the fact that the upper valve was fixed on one side and when the valve returned, it slapped the water in such a way as to splash it over the top of the pump. A vertical valve has been designed, which rises clear, allowing the water to escape on all sides. In making this improvement, another thing was accomplished, which is even more

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Hydraulically and Electrically Operated Valves and Sluice Gates. Valves Designed For All Kinds of Service.

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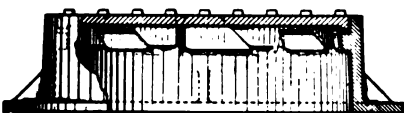
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We manufacture Manhole, Catch Basin and Sewerage Castings of all Kinds. We make anything in Gray Iron.

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The only Towels REALLY Sanitary, Economical, Practical.

SANITARY: Individual Towels, used once, destroyed and never used again. **ECONOMICAL:** Dispensed one at a time from a dust- and germ-proof cabinet of enameled steel. **PRACTICAL:** Used exactly as any cloth towel—RUB your skin dry and clean—don't blot.

Made of Pure wood-pulp, unbleached, strong, absorbent.

Investigate our offer to help you improve city conditions. Find out why our towel-system guarantees absolute hygiene by asking us for samples and our valuable book—"Public Service."

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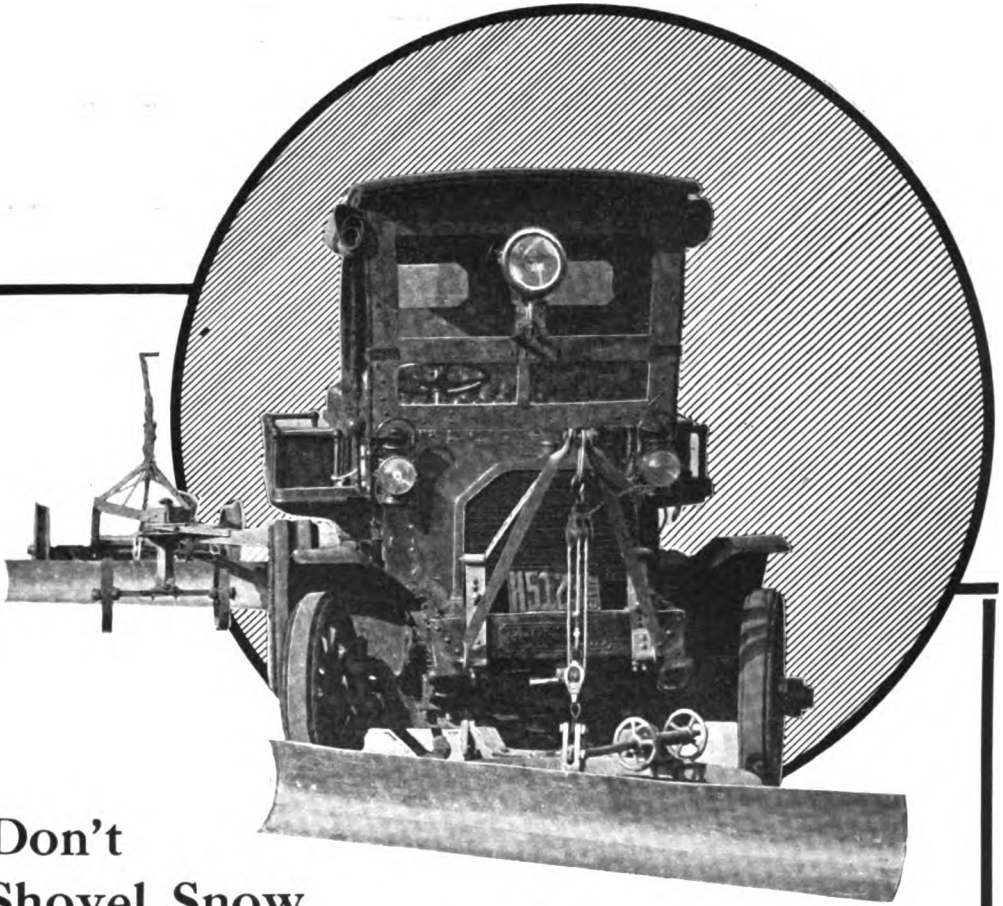
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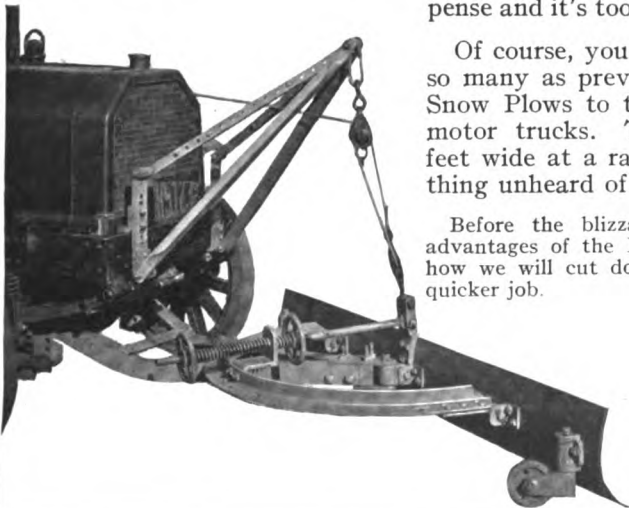
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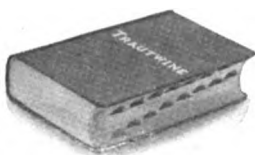
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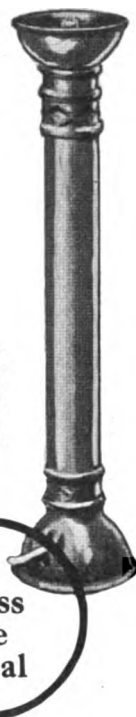
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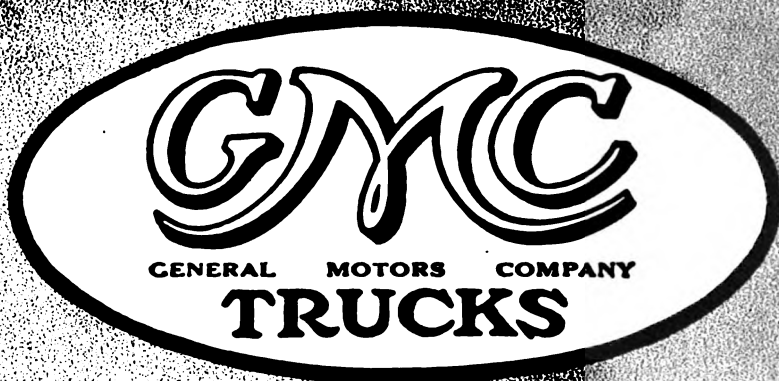
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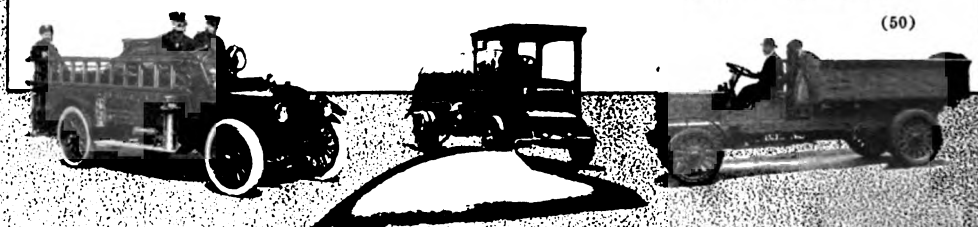
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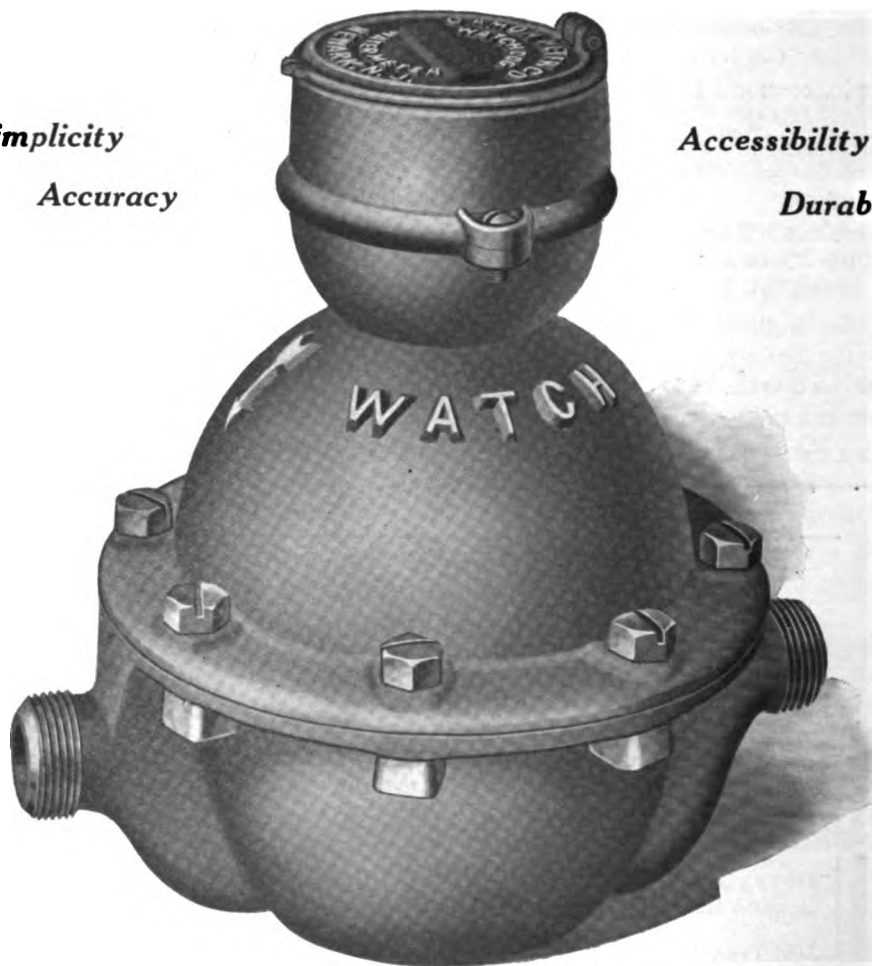
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VOLUME XIII
NUMBER 6

The American City

NEW YORK
DECEMBER,
1915

Municipal Recreation for All the People

THE relating of activities and the defining of functions in public municipal recreation are as necessary to New York, Muskogee or Upper Montclair as to Chicago. Although dealing specifically with the recreational problems of Chicago, the article on the following pages has universal application in its broader outlines. It is for this reason that we have felt justified in assigning to Mr. Richards a much larger amount of space than is ordinarily available for any author in a single issue of THE AMERICAN CITY.

The *leisure* problem is looming big here in America, and is crowding the labor problem for a place in the sun. Social problems are not isolated and detached questions to be studied and solved singly. So many social ills are traceable to the way the people use their marginal hours that a constructive attack upon this whole period is a most important social advance. In the movement to abolish or reform such institutions as the saloon and the dance hall, too little attention has been given to the need for substitutes which shall conserve the good features of the old. The building of social-civic-recreational centers, as advocated by Mr. Richards, is the kind of constructive work that must be developed.

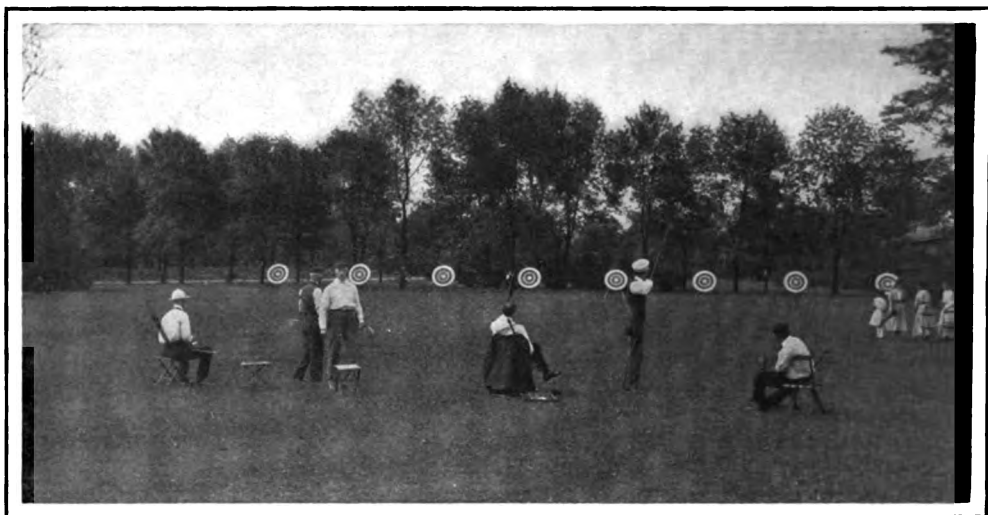
In planning these bigger programs, definite objectives are necessary. The function of providing for the people adequate opportunities for the enjoyable and profit-

able use of their leisure time is a municipal activity so recent in its acceptance that old departments or bureaus must perform new work, or new departments must be added to our present systems. Legislation of all kinds must be intelligent, and the suggestion that we begin to spend liberally to help people keep right and not solely to apprehend them after they have gone wrong is good twentieth-century doctrine.

Over six hundred American cities are appropriating public funds for such facilities as playgrounds, recreation centers, bathing beaches, golf courses, etc., and all are struggling to articulate this new work with the old. Good leaders, street play, suggestive plans, coöperation with all existing agencies, are among the essentials in public municipal recreation the need for which is confined to no one city or town.

There is no city, however, which has as yet fully grasped the significance of the leisure problem. Many cities have made more or less careful surveys of their recreational conditions and needs; a children's playground has been the usual conclusion, but obviously it is only a partial answer.

Because Mr. Richards' article is the comprehensive answer of an expert with a vision, we commend it to the careful study of our readers. We are certain that it will prove to be a stimulus, and a practical aid as well, in the present nation-wide movement for better public recreation.



ARCHERY IN A CHICAGO PARK
One use for bigger areas

Chicago's Recreational Problem as Related to a City-Wide Organization

By J. R. Richards

Superintendent Recreation, South Park Commission, Chicago

Present Conditions in Chicago

AT the present time there are six large public agencies spending public money in Chicago for recreational purposes. They are: (1) the Lincoln Park Board, (2) the West Park Board, (3) the South Park Board, (4) the Special Park Board, (5) the Public Welfare Bureau, (6) the Board of Education.

There are other public agencies contributing to needs that are developed by the leisure-time period of our population. The Public Library Commission is rendering a great and important service; the Bureau of Streets and Alleys touches the problem of play more than incidentally; the Juvenile Court is wrestling with the misuse of leisure by the youth of our city. Inspection and censorship of some commercial recreation is performed at public expense.

The City Council has passed a mass of legislation dealing with recreation: "movies," theatres, cabarets, saloons, prize-fights, dance halls, pool-rooms, amusement parks, children skating on streets, etc. Most of this legislation has been passed without adequate study and from a restrictive

and not a constructive point of view. No organization exists for gathering the data and literature of the subject for the use and assistance of the Council. A legislative reference library which should include the philosophy of recreational laws and all the ordinances and legislation relating to recreation is needed.

These various public agencies are working independently, with no common goal, no definite perspective and with little comprehension of the place and importance of such service in the municipality. Furthermore, not one of the agencies was organized for the primary purpose of serving or solving the problem of public recreation for Chicago. Recreational service was evolved and accepted after they had been organized for other purposes, and it is not the thing of *primary consideration* to any one of them.

Very briefly, this is the present organization and condition of public recreational service in Chicago. Without disparaging the fine work performed by the individual units, and mindful of the adequacy and beauty of much of their equipment, it must

he confessed that Chicago is without a central and controlling organization to shape and determine public recreational service. It is equally true that the public agencies and workers therein are without a common conception of the purposes of public recreation.

An all-comprehensive plan of organization and a purposeful scheme of operation are a patent need; but before erecting a factory it is quite essential to agree upon the desired product. Definite objectives in our recreational attack should be developed before proceeding to organize. The period of experimentation, necessary when municipal organization precedes definite ideas of service, is not desirable in the present state of recreational experience in Chicago.

The Significance of Recreation

The defining of our needs in the way of public recreation should be more accurately accomplished by glancing at the historical significance of recreation and at some of the ways in which the universal desire for pleasure has worked in the past. Only the briefest summary can be given, but it may indicate the trend of this part of our social evolution.

There is a difference between "play" and "recreation," in a generic or technical sense, but, as the problem of recreation comes up to us to-day, the one is merged in the other. The problem of play for children is a part, and only a part, of our whole recreational problem. The function of the play of children has been more or less accurately understood for centuries: Plato discussed it, Socrates used it, Froebel and Pestalozzi resuscitated the dry bones of formal education with it. Discussions of play by philosophical writers, such as Schiller, Spencer, Groos and Hall, are concerned primarily with the nature and function of the instinct as a part of the *individual's organic* inheritance. Recent movements for children's playgrounds have revived and reclothed these concepts, and, like them, have followed this individualistic viewpoint almost entirely. Our theories of play and explanations of the play instinct have consequently been confined to the individual organism. The emphasis in study and in practice, as dictated by modern needs, should now be placed upon the wider *social, civic and ethical* values. We are beginning to turn from a laboratory ana-

lysis of its composition to the field of applied science, and are endeavoring to make use of it. The power of this instinct should be used in producing better men and women for the community and the state.

The play instinct has been a constructive social asset only when used for developmental purposes; Greece so employed it; Germany so uses it to-day—or was doing so before its atavistic flare-back; Montessori is using it in Italy, and to some extent Superintendent Wirt is doing so at Gary, Ind. Physiological values will come from play when not directed at all, but leadership and understanding are necessary to get large social and ethical results.

The play of children in Chicago to-day has been too generally regarded as a palliative, as a substitute for street activity and as a necessary safety valve for the escape of surplus energy. It is all these and is worth all it costs for these alone; but we should now make it purposeful without killing its joy and its spontaneity. Play *will* socialize the instincts and games *will* develop coöperation, loyalty and fairness, but only when directed towards these specific things. *These great qualities are not inherent in the reactions called play, and to get them requires a knowledge of the "how."* A sharp knife may be used to make beautiful articles from wood, but everyone with a sharp knife cannot make them; it is essential to know how to use the knife. Coöperation may be developed from playing a team game like baseball, but it is essential to know how to use the game to get the desired result. Something more than two teams and a knowledge of the rules of the game is necessary to make play constructive.

Recreation for Adults

Recreation for all the people, adults as well as children, is absolutely necessary, and the money and effort expended to gratify this human necessity, evident all through history, stamp the leisure-time period of the people as being tremendously important. The play instinct does not die with childhood, nor indeed with adolescence; it calls for expression throughout life. Spencer says: "We stop playing, not because we grow old; we grow old because we stop playing." George Johnson's statement that the child is a process and not an entity, should have been made with the word

"man" substituted for "child." The great and important changes of youth do not continue through life, but there is no specific period at which we can say all change ceases. The desire for pleasure, for recreation, is as long as life itself, unless the play instinct has been allowed to atrophy. Recreation is not only re-creative but it is a possible power for development at any age. The analogy between the play of children and the past experiences of the race, wherein the child passes from crude and often savage acts to constructive play and ultimately to ethical concepts, suggests the civilizing influences of play. The civilization of the child is actually reflected in its play. Jeremy Bentham in his "Theory of Legislation" makes the wealth of activities of the leisure-time period one of the two great marks of superiority distinguishing a civilized people from a savage race.

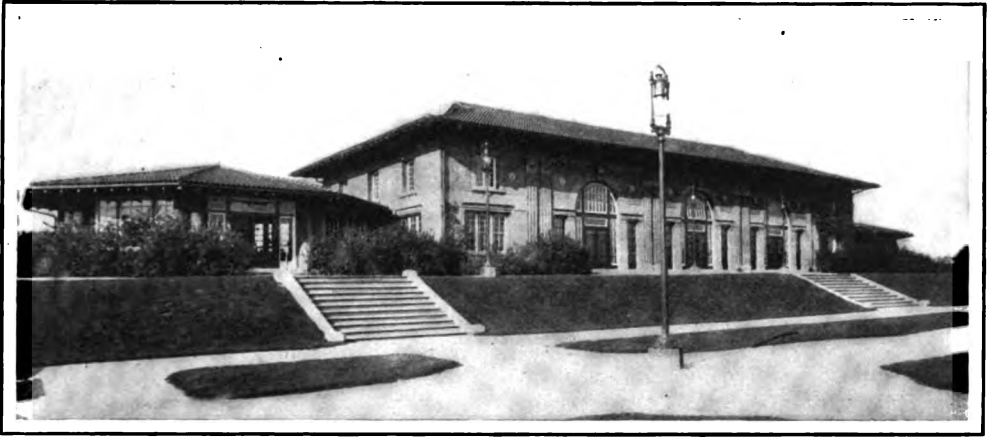
There is probably no necessity at this time for discussing the recreational activities of the ancients, although the ever-mentioned Greeks gave the world a complete justification for a system of public recreation in which the municipality accepted full responsibility. With an enormous slave population, and much leisure as a result, they made this period the great contributing factor in their development. European critics have often remarked up-

on the poverty of our pleasurable pursuits; "Americans do not know how to enjoy themselves" has been their way of describing the lack of attention and thought given to our recreation. Public recreation in America is new, and it has been slow in recognizing the needs of adults. Municipal music, municipal theatres, municipal dances, social centres, municipal bathing beaches, etc., until almost the present moment, have been regarded as esoteric growths, as functional developments in government—impositions upon the taxpayers.

Modern industrial and economic conditions have given the leisure-time period of the people greater significance, as well as a longer daily duration. The industrial revolution did more than put new complications into the *labor* problem, it presented us with another problem fully as pregnant with social weal or woe as the first. The *leisure* problem, as well as the labor problem, demands our earnest thought and effort. Modern conditions have increased the leisure time of the industrial unit, and at the same time have decreased the opportunities for recreation. The fatigue occasioned by highly specialized labor makes the long working hours, which were possible under the old régime, impossible to-day. The satisfaction that comes from making a completed article and being known and judged



REAL FUN IN THE WOMEN'S GYMNASIUM IN ARMOUR SQUARE



ASSEMBLY HALL, LIBRARY AND CLUB ROOMS IN THE RECREATION CENTER AT SHERMAN PARK, CHICAGO

thereby exists in industry no longer. This joy and satisfaction must come from something else if we are to preserve the necessary physical and nervous equilibrium. The demand of labor for shorter hours is not entirely a desire for more money for less work; fatigue, consciously or unconsciously, is the real driving force of this demand.

The leisure-time period is the part of our existence that makes or breaks us. An American philosopher remarked: "Tell me what a man does every night from eight to ten, and I'll tell you what he is." The influences that determine character, the activities that increase ability and make for growth, are most acute during the leisure-time period. Many of our social ills, treated as isolated problems, are nothing more than ramifications of our recreational conditions. The saloon offers opportunity for camaraderie and communication with our kind, and the first visit is for these and not for booze. The dance hall and the pool-shack lure youth with purposeless leisure on its hands, and prostitution and burglary flourish. Commercialized pleasure is concerned with dollars and not development, and gets as much as possible, giving a minimum in return. Commercialized pleasure debases the recreational desires and then justifies its low standards by the old chant, "We give the people what they want." We are not born with a desire for wicked amusements any more than we are born with a thirst for liquor. A raising of the standards of amusement for the people will never come from commercialized recreation.

"The Recreational Inquiry Committee" of

the state of California, appointed by authority of the Legislature, in the course of its report issued last September, says: "The nineteenth century was the century of the Machine, the twentieth will be the century of the Man. Our interests will center about the individual as a living, responsible factor in the community, and, in the spirit of conserving human strength and resources, attention will be paid to preserving and fostering the leisure time of the individual and the community. No social truth is more deeply written upon the hearts of men to-day than Percy Mackaye's words: "The use of a nation's leisure is the test of its civilization."

The Functions of Public Recreation

If the preceding statements hold water, an outline of the functions of public recreation for Chicago should embrace (1) constructive play for all children, (2) opportunities for the developmental use of the leisure-time period for all the people.

A leading school authority of this city, in a public address relating to the subject of social centers, said that we should not attempt to dictate, in matters of recreation, to our cosmopolitan population. Of course, no dictation can come from offering an opportunity for the expression of a basic human instinct. Certainly no such dictation as this man enforces every day in his educational system would be possible in public recreational service—and no criticism of our public schools is intended by the statement.

There is so much proof to justify the interpretation of recreation as the period of

our leisure, rather than a series of activities, that there may be danger of assuming this conclusion as established, and urging organization and operation upon this basis before the case is wholly and convincingly stated. It is certain that leading thinkers and workers in matters touching the human side of society, in Chicago and elsewhere, have, consciously or unconsciously, arrived at this conclusion.

Miss Jane Addams clearly senses it in her "Youth and the City Streets," and other writings. Miss Mary McDowell has expressed similar views of recreation. Dr. Anna Dwyer, of the Morals Commission, states this conception and makes specific recommendations that are based upon it, in her recent report to the Commission. In this report she says, "I would therefore suggest that play for adults as well as children be one of the first considerations of the Morals Commission." She urges the immediate appointment of a committee of fifty, by the Morals Commission, to supervise the carrying out of a municipal play campaign.

Men and women in other cities have ar-

rived at the same conclusion. Mr. James E. Rogers, of the California Commission, distinctly states and urges it; Miss Lillian Wald, of New York, has voiced it; Mr. Charles Weller, of the National Playground Association, expressed it as his view in a recent talk. Dr. Carrie Weaver Smith, Director of the Virginia Johnson Rescue Home of Dallas, playing a lone hand down in Texas, pleads for intelligence in the use of leisure time. She says, "Rescue homes, reformatories and madhouses are constantly drawing their quota, not from those who work too much, but from those who play too little." Public recreation has for its function the solution of the leisure-time problem.

Constructive Play

(1) **PLAY LEADERS.**—Constructive play for children is the first part of our public recreational duty, and clear ideas as to the securing of this result are essential. Play spaces and facilities for play are first requisites, but do not insure social results, and alone may develop no results at all. Leadership is demanded, and leadership means more than



THE SWIMMING POOL IN OGDEN PARK IS NEVER IDLE IN ITS SEASON

any individual "who has such a way with children," or an individual who has excelled at some of our standard competitive games. Play leadership for children necessitates a knowledge of child nature and the psychology of adolescence, and a full and working knowledge of interesting vehicles (games and athletics) for expressing the emotions dominating any epoch of childhood. Supervision in modern play practice is little else than policing; leadership by an able leader is essential. It is, therefore, imperative that Chicago insure to itself possibilities for securing the highest type and best-trained leaders to be found.

Politics must be kept out of recreation just as surely as it must be kept out of education. An intelligently administered civil service system should be insisted upon for the appointment and tenure of office of all play and recreational leaders. This civil service must be flexible enough to facilitate efficiency in instructional work and promote the training and education of leaders. At the present time not a civil service board in Chicago readily and easily grants absences for study and training school attendance. Usually the instructor or director loses his position when absent over thirty days. Pay is not granted at all during absences, and vacations are limited to two weeks each year. The matter of the method of employing leaders is the problem in a recreational organization for the entire city. The basic civil service law may be amended, when rules of the individual board cannot create conditions favorable to obtaining the desired results. Standards of pay and raises of salary have been very badly handled by all the civil service boards controlling our recreational agencies, and the length of service of instructors has consequently been very short. This very materially interferes with anything like continuous and constructive results. We have placed emphasis upon grounds and equipment; it is now time to discover and emphasize the absolute necessity of sympathetic, intelligent and high-minded leaders. The play leaders have done much in Chicago and have been a beacon for recreational workers in other cities, but they are badly treated at present. The public school teacher is vastly better provided for, and perhaps the play leader is just as important to the city.

(2) STREET PLAY.—Wherever playgrounds exist, it is noticeable that many children will play in the streets, alleys and vacant lots within a short distance from them. There are periods of the day when the younger children must be within reach of the voice of the home; and the yards, doorsteps and streets at such times are filled. Going about among these children, you may fancy, perhaps, that the combative or fighting instinct is the only one that develops the spontaneity and originality that justify free play, as it is termed. It may be suggested here that free play with spontaneity and coöperative originality demands a homogenous group of children with a similar social inheritance, and the masses of children on our streets have little or no social inheritance and are not homogenous in the play sense, often in no sense.

If children are to play, they must know how and sometimes have something to play with. The play instinct *can* go wrong, as Clark Hetherington says, and the apparently difficult and trying task of eliminating the boys' gang and the girls' cliques, which are developments of the free play of the streets, suggests going after the instinct in its established haunts and not being content with an attempt to coax it into an enclosure where we may handle it.

We are reconciled to the expense of hiring public servants to apprehend people who do the wrong thing, but we have been slow in spending funds to help people to do the *right* thing. Our juvenile probational and protective officers go about the streets and byways to help, after the "apple has been eaten," but no one goes about the streets to keep the children from eating the apple. Remedial measures are most essential, and our probationary officers are doing needed and praiseworthy service, but they should be aided by an attempt to stop the leak that threatens to inundate society.

The city should be districted and a play leader placed in each district. This leader should reach every child that uses the streets for play in the district at least one day a week. Games adapted to the streets, yards, doorsteps and vacant lots should be taught. Boys should be organized to clean up lots whose owners will give the leader permission to use them for play; and co-operation with the Bureau of Streets and Alleys should allow the closing of little-

used streets, at certain periods, for the play of the children of the neighborhood. Residents will object to the closing of a street in some sections, of course, not because it interferes with traffic, but because of the noise. The residents of the most congested sections will not object, however, and efficient administration by a competent play leader will develop support all over his or her particular play zone as the work progresses.

This leader should study the children of his or her district, make a permanent record of these data, and be a friend and advisor to these children of the streets. She must coöperate with all related agencies—schools, juvenile court, police, settlements, churches, etc.—and the boy and girl will be led from the street, at bad times and bad ages, by developing desires and interests, and curfews that never function will not be needed.

There are no leaders of street play in Chicago at present, at least no publicly supported leaders, and it may be that therein we exhibit our greatest negligence in the constructive use of play. It is probable that sixty play districts, determined with care and knowledge of the density of the population, play facilities and neighborhood customs, would adequately answer this need. There is quite as great a necessity in winter as in summer, for street play leaders and activities fitting climatic conditions can be promoted the year round. Leaders should have headquarters in the district and have certain periods for general consultation with the parents and children. The most centrally located school building would furnish ideal office facilities for keeping the necessary records and for consultation purposes.

The cost of sixty leaders assigned to street play duty, together with the necessary supplies, would be about \$40,000 per year. It costs approximately that sum to operate one large recreation park with its year-round equipment.

In the event of a city recreation organization, it is essential to provide the controlling municipal or governmental unit with the legal power to take care of street play, if the service is accepted as essential. The parking districts do not feel that they have such power at present, and it may not be provided in any measure consolidating the

various districts, therefore present inquiry into this legal aspect of the question is very important.

(3) TEACHING GAMES IN SCHOOLS.—The supplementing of play areas belonging to the schools is, of course, necessary and must always be a matter of consideration in any plan for caring for all the children all the time. The equipment of school yards in the matter of decent sanitary provisions, usable surfacing, etc., should be standardized. Drinking fountains, shade, toilet rooms, etc., must be carefully planned, so that these school yards may be effective when the building is closed. Games adapted to the ages of children in the different grades should be taught in all public schools. These games should be selected with a regard for the habitat of the child, and are just as essential as music, drawing, or any part of the curriculum.

It manifestly is not helping the play needs of the child to teach posture and gymnastics alone. The children will not do marching tactics on the streets or in the yard, and, likewise, will find no play asset from school instruction on the buck or horse. If we can teach but one thing related to physical education, we should drop the formal part and give the informal, the game part, the interest part. This refers to the instruction of children in the grade schools.

(4) For the boys and young men, public leadership in their sport is essential. There are 8,000 boys playing baseball in Chicago to-day as members of regular teams. Probably several times as many play upon pick-up teams at irregular intervals. The leagues and associations to which these teams belong have been supported by the commercial institutions, fraternal orders and neighborhood interests of the city. Some of the leagues are well conducted, others are not. The independent teams have often been compelled to establish headquarters for schedule-making in a saloon. Many of the teams are gambling organizations and nothing else. One boys' worker from Chase House told me that his team of twelve-year-old boys refused to play baseball at first unless they made a jack-pot by putting up a nickel apiece to gamble on the game. Scarcely a game is played at our big parks on Sunday that is not played for a purse. Until this summer

not a public recreational agency in the city attempted to organize and administer baseball as one of its sports. The game has been put out because it presented too many problems. Some one once said that baseball, our great national game, was our training school for citizenship. If this is true, we have an explanation for some of our Chicago citizenship. It is far from an exaggeration to say that the gambling craze, and not the play instinct, is being expressed by the game of baseball in Chicago to-day.

A central athletic organization with standards and ideals is absolutely necessary. Public-spirited citizens, such as Mr. Patterson of *Collier's Weekly* and others, have begun to work for amateur baseball here in Chicago and elsewhere, and this work should be aided by a powerful public organization. This is an urgent need in the constructive play of Chicago's young men.

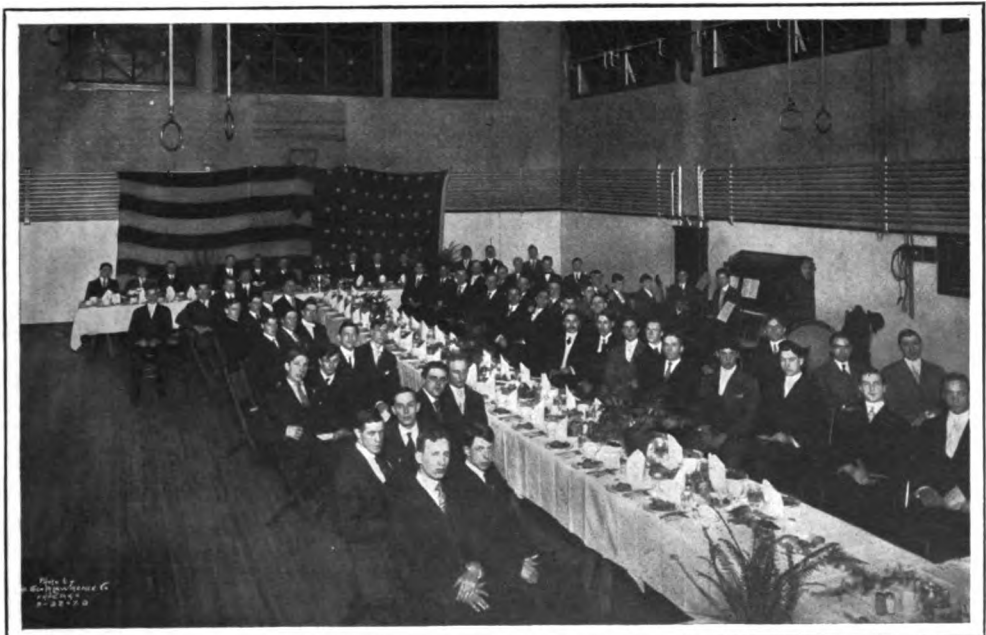
A merit system of competition should be developed, and it is practicable in every way. We say we want games because they develop coöperation, squareness, etc., but not a single game makes these qualities the determining factors in winning. Infractions of the rules are penalized, but the positive use of these qualities in determining

winners has not been attempted very generally. It is possible to give a different percentage for winning, for sportsmanship and for reliability. This plan has worked admirably in one recreational system in the city.

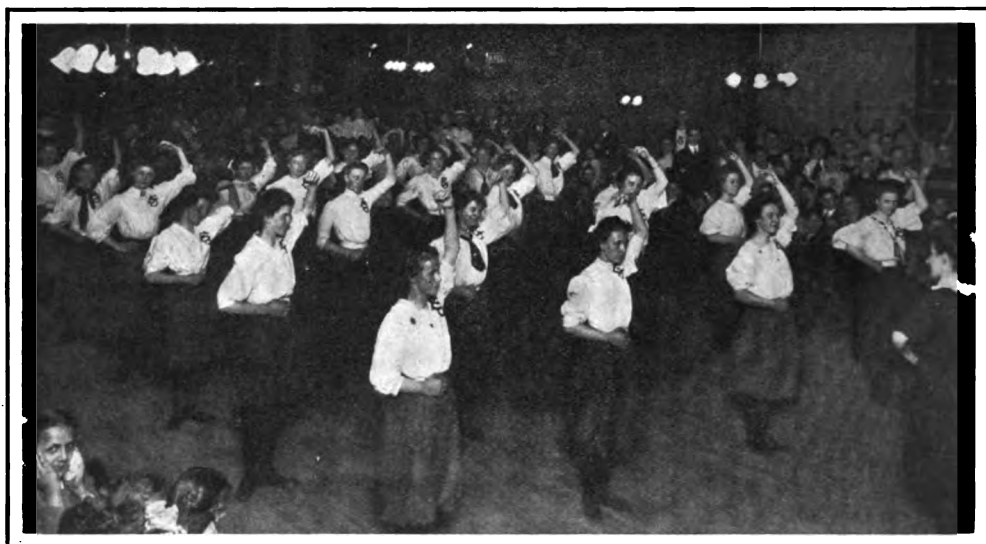
(5) The work of a recreational department for the city should offer opportunities for coöperation on the part of parochial schools, to the largest possible degree. The close coördination of play needs with school life can be secured in some sections of our city only by working with the parochial institutions. The central recreational organization should establish sympathetic and cordial lines of communication with the authorities that determine the curriculum of these schools, and aid, if desirable, in the development of graded games as a regular part of the school work.

The best information on equipment and surfacings and details of operation of play areas should be afforded the parochial authorities at all times and brought to their attention at frequent intervals. Constructive play calls for this, and the coöperation of the street play leader with the parochial school interests of the district is also necessary.

(6) Charitable homes for children should be educated on the play needs of their chil-



A CITIZENSHIP BANQUET IN HAMILTON PARK



FOLK DANCING IS A FEATURE OF GIRLS' RECREATION
A class at Cornell Square

dren, and every possible aid should be given them to provide proper facilities and intelligent administration of the play activities of the children. There are a large number of these homes in Chicago, labeled "Home for Friendless Children," etc., and such a chilling door sign certainly calls for a lot of internal cheer to offset its influences.

The recreational department of the city should be *empowered to recommend and compel* suitable play provisions, in equipment and leadership, on the part of all institutions caring for orphaned, neglected or subnormal children. The necessity for a natural play life is doubly important to the child with no home.

(7) Play as a factor in reformation should be employed by all our local corrective institutions. Clearly defined conceptions of the use of play in this sense are necessary to get results, and the recreation department of the city should furnish this information. The detailing of a physical instructor to a school does not meet this need. Opportunities for normal expression of the play instinct and leadership therein, during the play periods, will do more than walls and discipline to help these wronged children get right.

(8) Cooperation and suggestive leadership should be offered all the agencies dealing with the play of the youth of the city. Country clubs should be encouraged to employ boys' leaders for their caddies, as is

being done this year by the "Old Elms," "Ravisloe," and other clubs of the city. These institutions should be furnished with outlines and programs for directing the leisure time of the caddies, and, upon application, with the names of good boys' leaders.

Organizations like Boy Scouts, Camp Fire Girls, etc., should be offered the advantages of a clearing house for consultation, cooperation and mutual aid of all kinds. Boys' and girls' organizations of a permanent and temporary character should be listed and attempts made to use them in the work of making play constructive. It has been estimated that there are over 200 boys' clubs of various kinds in the city, each with a room somewhere for headquarters. They are not only without leadership, but are not even noticed in a field vitally concerned with their existence. They would welcome a coordinating agency, and would respond to real leadership free from cant and purposeless and indefinite programs. General associations for the promotion of developmental athletics and better living, such as the Y. M. C. A., Y. W. C. A. and the units of the Amateur Athletic Federation of Cook County, should be correlated in a city-wide plan for securing clean men and women from our boys and girls.

(9) It may be deemed unnecessary and inadvisable to ask recreational workers to aid manufacturing companies producing toys and children's playthings, thus taking

on duties only indirectly affecting the play of our children. There is an opportunity for the development of a considerable industry in toy-making here in Chicago. Nuremberg should not be called upon to provide the play articles of our children, and the eighteen firms of the city making toys and play equipment should be given the scientific view of their subject, just as the state and national governments give our various farming and industrial interests the latest information relating to their work. It is possible that this service could be effectively performed by coöperatively clearing through the Chicago Association of Commerce.

This service *could* be performed by a recreational department and would be profitable to the cause as well as to commerce. Toys that appeal to certain ages, and playthings that call for particular muscular effort, should be scientifically adapted to the needs of childhood. Quiet games may be made educational, and their spread and growth demand just this relationship with public recreation.

Childhood vs. Adolescence

Some of the activities, coöperations and essentials in constructive play have been outlined; no attempt has been made, however, to exhaust the list, and of course it is impossible to go into working details. Playgrounds at important places have not been particularly listed, for the reason that their need is known, and the problems of operating are as well understood in Chicago as anywhere else. The linking of play facilities to the schools and school authorities is the trend of the best thought on the subject to-day, and should be the policy. There is a point or period in the school life of youth, however, that has presented such difficulties that the same period should be carefully studied in providing the play life of our youth. The proper transitions from the grades (so-called) to the secondary or high school has long puzzled our best educators. The schools have not solved it, and the recreational workers are clearly sensing a necessary change of attack. The period of adolescence is not the period of childhood; the education and the play of children passes figuratively from the milk to the meat period at this time.

Play has been developed in Chicago, and in American cities generally, for childhood.

The play of boys and girls from 12 to 18 must be understood and adequately satisfied if the good work of the earlier period is not to be lost.

The demands of constructive play for the adolescent boys and girls call for supervision, leadership and facilities that are very difficult for our schools to completely supply at the present time. Larger areas, varying social contacts, the desire for realities as contrasted with the fiction that school life is not real, are conditions difficult to handle and require an attack essentially different from that offered by the schools. The schools must adjust to it, and in the meantime the public recreational agencies must *do* as much as possible. It must be remembered, too, that a very large percentage of our adolescent boys and girls are not school children, and often will not return to their old schools for social pleasures or occupational development, under any circumstances. Various causes have contributed to this end: many young people have unpleasantly broken with the teachers or principal; others have been forced out from economic reasons and have the false but keen pride of youth against meeting their former classmates. Then there are cliques in all secondary schools, and democracy makes such poor headway with them that social recreation and developmental uses of leisure at a high school for all the boys and girls of any community have not been successfully developed.

In so far as a recreational system serves childhood, it should be free. Play is as important as formal education, and public support of the latter justifies the same support of the first. The pauperizing of the people has not developed from free instruction or free text-books, and it will not come with publicly supported playgrounds and recreational facilities for children. The question of fees for adult recreation develops a different situation and will be discussed later.

Developmental Use of the Leisure-Time Period

The second function of public recreation as established by our modern urban needs was stated as "opportunities for the developmental use of the leisure-time period, for all the people." This does not say, or mean, that *all* recreation for *all* the people is to be provided by the city; such is impossible

and unnecessary, for the reason that the people do not desire such service and do not need it. But it does mean that any resident of the city may have an opportunity for pleasurable and developmental recreation if he wants it. The city, according to this conception, is to aid in the solution of the *leisure-time* problem, just as the city and other governmental units are endeavoring to aid in the solution of the labor problem. The evidence for the necessity of this service in the social sense has been outlined. The evolution of the service as a function of government is quite as apparent as the fact of its social urgency.

Education has not always been regarded as a governmental responsibility. Education has evolved from an individual interest to the function of an institution, the church, and finally to the state. This country established, once for all, the responsibility of the government for the education of its citizens. This governmental, or collective, concern for the individual has but recently sensed the necessity of going beyond formal education and following the individual into industry. The old legal status of the employe has changed; he no longer contracts at his own risk and perhaps destroys himself, slowly or swiftly, if his individual needs or obligations so dictate. Modern industrial and social legislation evidences the government's acceptance of responsibility for the unit while working. We have child labor laws, regulation of the hours of work for women, state industrial insurance, industrial commissions, employer's liability laws, compulsory sanitary provisions, safety regulations, and inspections of factories, mines, etc. Foodstuffs must meet legal standards. Industry, the means employed by the people to get their meal tickets, must not destroy the workers, if the state is to function.

It is perfectly logical that the government, in some of its units, municipal or state, should ultimately recognize that its cycle of responsibility should be completed and that the period when the individual is not being trained and is not working is as important, from the standpoint of citizenship, as any other. The development of governmental responsibility has reached this point in Chicago, even if the full obligation has not been specifically defined. Legislation of all kinds was restrictive before it was constructive, and recreational legislation has been no exception. We are

now on the threshold of the constructive period.

Dr. Luther H. Gulick in one of his papers says: "Our cities are being architecturally beautified in accordance with far-seeing, harmonious, municipal designs. Why should not our physical, moral and social health receive the same broad treatment?" Had he included civic betterment in his statement he would have classified the activities for a comprehensive plan of municipal recreation. It needs no reiteration, of course, to impress the fact that fun and meaningless pleasure are not the only things meant by leisure. We may enjoy a lecture on the beautiful snow of the Swiss Alps, but there are times when we want something that gets close to our domicile.

Civic questions of all kinds must be discussed and deliberated upon during the leisure period of the people, if they are to be intelligently solved. The fundamental need for a place for deliberation before rendering a decision—voting—must be met by the plan seeking to make the leisure period developmental. E. J. Ward, of the University of Wisconsin, says: "The greatest weakness in our whole political fabric is the lack of a public forum." President Wilson developed this fact in his speech at the first National Social Center Convention. The Palestræ of Greece were the centers for political discussions; the places where people naturally "get together" will be the places where they get their information for sound civic judgments or where they accumulate their prejudices. The reasons for uniting schools and playgrounds state the case for the uniting of the civic with the social and recreational centers.

Building up the Program

This purposeful program for the occupation of the marginal hours of adults should include activities that may be loosely classified as (1) Health, (2) Social Pleasures, (3) Civic and Individual Betterment.

HEALTH.—Health activities embrace all the things that touch the physical well-being of the individual and society. Physical education in a recreational system must aim at developing the exercise habit, at a process of securing muscular and organic functionings that will preserve the individual for telling work during maturity. There has been a great reduction of infant mortality; in fact, up to forty, the death

rate has been decreased amazingly; yet insurance and medical statistics tell us absolutely that little progress has been made in decreasing the death rate of those over forty. To accomplish this we must be all the more efficient in ministering to the physical needs of youth; consequently, no neglect to them can enter because of this aim.

The development of the exercise habit calls for the teaching of interesting games, adapted to the different periods of life, that

facilities. It has been suggested that the expense of building such public baths should be assessed against the owners of houses of the districts that are without this necessary health facility. Regardless of possible legal complications, this points one way of forcing health provisions and placing the burden where it belongs.

In this service to spread health and retain it, there must be a close coöperation with all health agencies. The Infant Welfare Association should be provided with head-



A COLUMBUS DAY PAGEANT IN JACKSON PARK

Replicas of Columbus's ships are in the harbor

will hold the interest and call out muscular and organic activity. Indoor space and large outdoor areas are necessary. Recognition and provision for group interests are demanded, and golf, tennis, baseball, cricket, bowling on the green, swimming, archery, croquet, boating, skating, etc., must be persistently promoted, with all the indoor games. Provisions for baths must be ample, and public baths should be placed in localities where the housings show a lack of such

quarters for its work in the neighborhood; the Visiting Nurses should radiate from the center and not be forced into back rooms of drug stores or worse places. The exhibits promoted by the Tuberculosis Association must be provided with a place, and it must be one that has the equipment for reaching and accommodating the people. The Health Department will use the common meeting places of the people, and to be really effective it must have such a channel of com-

munication. All agencies of local character dealing with sewage and garbage disposal, clean and sanitary streets, pure food, etc., should use the center as a clearing house, and some one should be there to correlate their efforts.

The teaching of personal hygiene is a part of the work of the play leaders, and this instruction should be supplemented by lectures upon health subjects by physicians and health officers.

This suggestive health program is not only possible for the whole city; it is actually carried out at many of the year-round park recreation centers of the city.

SOCIAL PLEASURE.—This term may not scientifically describe the activities that are classed under it, but it is as good as any other. Participation is the essential thing here, as in all the physical work; for in no other way will we get progress and hold interest. Commercial recreation gives us something to *see*, not often something to *do*, and the blasé individual is its finished product. Participation compels progress, and progress holds the interest; it is good pedagogy.

Our gregarious natures demand social contact, and this should be satisfied for our betterment. The social dance, community music, community dramatics, festivals, celebrations, carnivals, informal gatherings, lectures, moving pictures, social clubs, etc., must be provided and promoted in an able and purposeful manner.

CIVIC AND INDIVIDUAL BETTERMENT.—The civic conscience of the people will be aroused, if at all, by the developmental work promoted during the marginal hours of the masses. Likewise, the industrial efficiency of the masses will increase very largely by the use made of the same period. The equipment for recreation, in a broad sense, gives facilities for performing this absolutely necessary service. The most used branches of our libraries are to be found in our park centers, and Mr. Legler, city librarian, has repeatedly called attention to the advantage of libraries at places where people gather for other than bookish reasons.

This group of activities should include: citizenship classes; civic clubs of all kinds; political meetings and discussions; lectures and courses on all phases of local and general civic problems.

Individual efficiency will be developed by

classes in domestic science, English classes for foreigners, civil service notices and preparations for examinations; talks to workers in certain industries, municipal gardens, local employment lists, savings banks for children, summer camps, talks by librarians on the use of books, etc.

The work that should be done to make the leisure-time period developmental has been briefly indicated, and, regardless of the logic of stating any or all of it as a recreational function, the fact remains that *this service must be the proper concern of someone if society is to advance*. The individual is not doing it, and the trend is to call in the collective, the coöperative agency—the government.

Recreational systems must attack the leisure problem, and *should* undertake this service, for other governmental agencies are not doing so.

This conception of the leisure-time problem has been acquired by many sincere and intelligent people, here and elsewhere. It must be *acquired*, and by close and sympathetic contact with some one community, together with such a prayerful classification of experience and observation that individual problems and isolated segments of society will blend into one great picture—the pathetic human struggle for a compensation that is not bread.

Robert A. Woods, of the South End Center of Boston, has seen this picture, as did Walter Besant, Arnold Toynbee and Jacob Riis. Chicago has a little company of real souls who have seen and understand the struggle. This vision calls for coöperative, unselfish work, and the banner under which the labor is done is of no importance; it is the service.

Particular Activities

It is clear that most of the service suggested in this outline of "opportunities" points to the "all-inclusive" center, so called. This type of institution, both public and private, has been the most constructively successful recreational and social agency in Chicago. As Miss Azile Reynolds, of the Armstrong school, has clearly stated, the organization of a community and general participation of all its members in many different activities is an index of its social health. Community work is intensive work, and the equipped center is essential. There are certain most important

activities demanded by recreational needs that cannot be satisfied by the all-inclusive center, and no impression that it is alone sufficient should arise. The broadening of activities is, perhaps, essential, and the powerful influence of municipally supported and directed leadership and supervision is needed in several lines, particularly in the drama and in music. Competition with commercial recreation which is imitative of its exploiting of human pleasure is not to be undertaken for a moment.

PUBLIC DANCES.—The social dance as a recreational activity has been terrifically abused, and to be made socially helpful needs to be understood. Several investigating committees have enumerated the dangerous elements of the public dance as (1) promiscuity, (2) liquor, (3) intimate personal relations. Promiscuity eliminates the social inhibitions, or the restraint upon conduct imposed by friends and acquaintances; whiskey breaks down the individual inhibitions, and, with both weakened or gone, the intimate personal relationship does the rest. Promiscuity and whiskey are bad elements to mix with the social dance. Whiskey must be excluded from dance halls and the promiscuity controlled and reduced to a minimum. The dance should then be made constructive and not allowed to take its place as a time waster and form of dissipation. The neighborhood or community dance is really recreative, and every neighborhood should be provided with facilities for social dancing. The schoolhouse is the ideal place and will be as enthusiastically patronized as any other place with the development of the force of custom.

Where the schoolhouse is the social center of the community, the promiscuity can be controlled as easily as the attendance of the pupils is controlled. If open dances are given, rather than group dances, efficient regulation will confine the attendance to the neighborhood, and the matter becomes automatic in a short time.

Sociological writers, such as Havelock Ellis and Westermarck, devote considerable attention to the place of the dance in the social life of man. The religious and festival uses of the dance as a means of emotional and artistic expression characterized the earlier life of many different races. The dance, as an institution, developed, like all human institutions, through force of habit, custom and simi-

lar group interests. The older races to-day in their folk and national dances evidence the distinctive interpretative character of the dance. It is essential, however, to have a homogenous people to produce dances that are universally used.

Dancing has been seized upon by the people of all races as a social activity to-day, and the transition from festival and religious occasions to every-day social uses is the direct result of the increase and spread of the leisure-time period. The masses did not dance until comparatively recent times, except on gala occasions. Now they have time to dance every day, and the couple dance has come to dominate all other varieties of dancing and all other social activities for the young. It was the greatest pleasurable social inheritance possessed by the different peoples, and it was perfectly logical to attempt to adapt it to modern needs, but this has not been accomplished for the best social life of the people.

A recreational system aiming to use the social dance to the best advantage must eliminate the vicious influences that often hover around it, must use it as a constructive means of social expression and gradually make it the spice of the social evening and not the only dish served. This means neighborhood dances with instruction in the essential conventions of good society, instruction in correct dancing looking towards the standardization of the modern dances.

The public recreational centers, settlements, schools, social centers and churches should all be in harmony in their use of the dance as a social activity, and in a very short time the dance problem will cease to be. The public commercial dance hall should be compelled to conform to standards approximating those established by the developmental agencies.

COMMUNITY DRAMATICS.—The drama was one of the first and greatest vehicles of literary and artistic expression. The old miracle and mystery plays inspired the early English bards and interpreted Christianity to the masses. The English drama was an evolution of community expression; the message was of first consideration and the actors second. The stock company was the accepted medium of presentation in the halcyon days—the productive days at least. To-day the drama is professionalized, and little community use is made of a form of expression that was once most powerful and

influential. That this is a real loss to society and not a mere incident of changing conditions is the firm conviction of many earnest and thoughtful people. The existence of such societies as the Drama League of America, the Chicago Drama League and the Little Theatre Association here in Chicago testifies to the desire on the part of the good people of this city to bring back the valuable features of the drama.

The drama and its allied activities, such as public readings, declamation, oratorical contests, etc., have a most important place in developmental recreation. Every community should have its playhouse, and one in which it may participate and not be merely passive. Probably no great American drama will ever be evolved until many communities gather dramatic knowledge and inspiration from participation. The Wisconsin Dramatic Society is promoting the production of plays expressive of American life here in the Middle West. Professor Dickenson, of the Wisconsin Society, has pointed out the demoralizing effects of the professionalized drama upon the actors and public alike. The three-hundred-night run is deadening to the actors' art, and of course mitigates against local productive effort when the metropolitan success is fed to all the urban population of the continent by a myriad of "road companies." There can be no high standards of dramatic taste under such a system. The theatre has become an institution to please the *average* and get the money; and from a commercial viewpoint never can put out anything that will appeal to those with tastes a little above the average.

All the recreational units of Chicago are using dramatics as a community activity. Local dramatic organizations exist from Pullman to Rogers Park, but they are not expressing community life at all and often are of little value to the neighborhood. They should be made more developmental, brought to higher standards and subjected to intelligent supervision. The Hull House players have given us a glimpse of possibilities, and with a few years of directed effort some Chicago community may aspire to a service comparable to the work of Oberammergau in the Bavarian Alps.

MUNICIPAL THEATRE.—Chicago has an Art Institute built upon public property by private subscription and supported by \$100,000 annually of the people's money. Over

a thousand students are receiving instruction in the various art courses taught at this greatest municipal art school in America. Therefore it cannot be charged as a visionary project, or a far fling, to propose a municipal theatre and school of the drama for the developmental recreation of the people of the city.

At the present time one of our parking boards is maturing plans for a great stadium in Grant Park. With a comparatively small additional cost a beautiful indoor theatre could be provided at one end of the stadium. Ample space can be found in the necessary supporting walls to furnish rooms and facilities of all kinds for a great municipal school for studying and developing the drama. The cost of such an addition to the stadium project would be much less than the cost of one of our park field-houses, and the possible influence for good in dramatic training and participation would be enormous.

A municipal theatre would be a great force for bettering the standards of commercial theatres and would eventually be self-supporting. The students could radiate into the centers and furnish leadership and instruction and provide a unifying influence in dramatics throughout the city.

COMMUNITY MUSIC.—The poet Heinrich Heine once said, "I care not who writes the laws of a nation if I may write their songs." The socializing value of music is used more or less everywhere. Good music is educational and developmental, and we have too little of it here in Chicago. But there are abundant evidences that many citizens wish it to be developed by a more general participation and a better appreciation.

The Thomas Orchestra is a fine testimonial to Chicago's municipal desires, and the recently born Civic Music Association is an inspiring illustration of the possibilities of coöperative and directed efforts. Someone once said: "It is better to *play* a Jew's-harp than to *listen* to a Paderewski." Certainly none of us would interpret that sentence to mean that the music of each was in the same class, but the fact remains that musical participation begets appreciation. The Civic Music Association has followed this scientific pedagogical precept and has offered opportunities for participation, as well as chances to hear the best music.

The parking boards of Chicago are spending about \$35,000 annually for band

concerts, and an additional sum for leaders, musical scores, programs, etc. This sum would furnish a most valuable developmental agency for getting better music and spreading musical appreciation throughout the city, and, if municipal music is to be developmental as well as recreative, it should be scientifically administered. We are paying for it now, and we should get it. A recreational system should have a most carefully organized and ably administered department of music. Communities should be organized musically, and in the beginning leaders should be provided for the various groups. Choruses for children, men and women; bands, orchestras, etc., should be promoted, and the best leaders obtainable should be provided. Coöperation with agencies like the Civic Music Association should be completely carried out and civic concerts by the best artists of the city should be promoted.

Singing should be used as a recreational activity at all centers, and informal "sanger-fests" should be promoted. This has been done at the Chicago Commons and other places in the city and has been found most valuable. Much has really been done along these lines in Chicago, and the work should now be tellingly knitted together and built into an effective agency for the musical welfare of the people. The work of such citizens as Mrs. George B. Carpenter, Miss Brundage, Mr. Rossiter Cole, Mr. Julian Worthington and Mr. Simpson of West Pullman, should be crystallized into a municipal music department looking toward a big, purposeful service of offering the leisure period of the people useful and pleasurable possibilities.

OTHER AGENCIES.—There are other activities that deserve particular discussion, but the service has been sufficiently reviewed to warrant turning to the question of a possible organization here in Chicago to accomplish some or all of it. The more familiar agencies, such as the big parking areas, beaches, etc., have been neglected, for the reason that their place and methods of operation are quite generally familiar and we accept them as legitimate features of public recreation. The addition of certain activities to the scheme of service may be advisable from time to time, but a mere transfer of an activity from private hands to public control is not worth while, unless a purposeful program is being carried out. Someone

once said: "Loafing is loafing, whether in a pool shack or a Y. M. C. A." Probably that is true, but environmental conditions are not therein considered. However, a refusal to do anything after a decent period of probation is sufficient reason to eliminate the loafer. The matter of restaurants in public places might be discussed, and the whole question of commercial concessions in parks and recreation territory is important and deserves attention, but is not exactly germane to the purposes of this paper.

Experience seems to pronounce in favor of recreational facilities that do not break up the family; at least those that are not so anti-social that they appeal only to the member of the family with the purse. This is exactly what is done by commercial agencies, and the segregation of activities by public agencies should be avoided except in rare cases.

Organizing the System

The purposes and some activities of a municipal recreation system for Chicago have been discussed, and the question of how to get them is the last and logical topic. Obviously, we must proceed by using present conditions to the best advantage.

A central and city-wide organization, with full authority over all distinctively recreational facilities, is necessary. This is possible under park consolidation, for few distinctively recreational facilities in Chicago are controlled by other branches of the government. Consolidation, so termed, is in reality a merger of all parking powers with the city government, as the present bill is framed. Consolidation *can* give us the big opportunity, provided the scheme of *operation* adopted by the City Council does not prevent. *Operation* after merger is really more important than the consolidation. The grave problems and dangers of politics, special privilege and inefficiency, under possible future systems, are not properly a part of this paper, but there are two sides to the question. Park consolidation, however, does unite, under the city, all the recreational agencies, and a perfectly definite and workable plan of coöperation with the Bureau of Streets and Alleys should be easily secured for the development of street play. The funds for this purpose could be provided by the city, if the power to appropriate from park funds did not exist. Co-operation with the school board in the de-

velopment of social centers in schools and the operation of playgrounds in connection could be secured, as it has already been secured to some extent by the Special Parking Board. The development of play as a part of the school curriculum would come from the close coöperation of the Superintendent of Recreation with the Superintendent of Schools.

COORDINATING COMMITTEE.—There should be a coördinating committee representing the Department of Recreation, Bureau of Streets, Library Commission, School Board, Parking Board, Police Department and Council, for the purpose of articulating all these agencies for the harmonious use of all recreational facilities. The agreements of this Committee should be accepted by the various units, at least should be their guide looking towards coöperation and unity of action.

Whether the recreational department should be operated as a part of the parking service or as an individual department and use parking facilities under a council ordinance and coöperative agreement, is a matter of thought, but perhaps it presents legal difficulties, in the matter of appropriations, that make it necessary to organize under the consolidated parking board. If this is the case, the coöperative arrangements should be but little more difficult to secure. It is possible, nevertheless, to have a city-wide administration of recreational facilities, for in either event we have the centralization of control and the uniformity of operation.

POLICE.—The coöperating agencies have been touched upon heretofore and their service indicated, with the exception of the police. In the administration of public recreational facilities in Chicago, at present, police are absolutely necessary. They may not do all we would like, and may have a peculiarly individualistic way of doing what they like, still we must have police, and it should be the function of the recreational department to make them as efficient and as socially serviceable as possible. Criticism alone will not get the desired result. A special detail of police should be assigned to recreational duties and should be brought into contact with the ideals and concepts of such service by the Superintendent of Recreation as well as by the Chief of Police. Meetings of the police and recreational workers and discussions of this service will

result in developing concepts and securing results.

The work of the police in controlling commercial recreation is another duty and should receive the same treatment, with its specific problems constantly developed and discussed before and by the squad detailed for such duty.

SUPERVISORS.—The Department of Recreation will necessarily perform services differing radically in many essentials; still, the organization of separate bureaus is not advisable. Supervisors for particular functions will prevent the annoyance and waste that arise in public service where the metes and bounds of departments are too definitely described. There should be supervisors for several groups of activities, such as, (1) the play of children on streets and playgrounds, (2) bathing beaches and standardized games, (3) community or neighborhood centers, (4) community music, and (5) a coöperative scheme of supervision of dramatics by the Director of the Municipal Theatre.

Administration by supervisors of the various activities conforms to the best and latest idea of all service dealing with educational and developmental work. Expert leadership is there afforded to the workers in the different activities; programs and schedules of work are properly and efficiently constructed; and the gathering of data and classification of experience will keep the department virile and up to date.

INFORMATION SERVICE.—The several supervisors should be charged with furnishing the Superintendent data and specific information for organization into bulletins dealing in a practical way with the many phases of recreation that exist here in Chicago. These bulletins should be supplemented by personal advice and council whenever requested. Such subjects should be covered as (1) Leisure Hours of Firemen, (2) Recreation at Police Stations, (3) Recreation for House of Correction, (4) for Hospitals, (5) for Corrective Schools, (6) Fraternal Orders, (7) Industrial Institutions, (8) Labor Organizations and Labor Day Festivals, (9) Programs for Celebrations of all kinds. (10) Private Homes, etc.

Of course information upon the material side—equipment, apparatus, etc.—should be always on tap.

PUBLICITY.—Facilities aiming to serve the

whole city should be advertised in city-wide mediums. Most recreation is local, however, and this should be advertised locally in an adequate and dignified manner.

Carrying Out the Plans

The details of operation of a city-wide system cannot be described, although it might be profitable to do so. The above outline suggests one plan and a rather comprehensive but perfectly definite objective. It is practicable, and most of it has been done by different individuals or agencies at one time or another here in Chicago.

The utilization of our present public equipment—park, school, etc., would give us a sufficient number of all-inclusive centers to carry out the above program without great additional expense. Fifty public neighborhood centers, properly distributed, would furnish equipment for the intensive program suggested above for the whole city. We have twenty-two centers at present and three more building, in the parks alone. The public schools should furnish the remainder.

The school centers have never aimed to give the daily service to the community offered by the park centers. It is essential that this be done, and it can be done at a comparatively small additional cost. When schools are set out as neighborhood centers under a plan similar to this, provision should be made for offices, club rooms, branch libraries, quarters for visiting nurses, etc. An addition may be made to the regular school equipment to provide these facilities, and the cost will be small when compared to the cost of our park centers. This expense may be assumed by the Parking Board, as is done in the work-

ing agreement between the Special Parking Board and the Board of Education at present. No insurmountable obstacles need arise because of conflict of authority between public boards, although friction will appear until the service has been established. Eventually it will be adjusted to one authority, but the work is too important to wait, and no adequate provision for the service will ever be made until the work is under way and demonstrates itself.

The location of all recreational facilities should be determined by a scientific survey of community needs. The density of population, geographic lines of growth of a neighborhood, recreational service afforded by all agencies—private, philanthropic, mutual, etc.—social conditions as related to public recreational service, should be determining factors in locating public recreational facilities. At the present time the neighborhood with a pull stands the best chance before our public boards.

Now is the Time

This service need not necessarily wait upon any contingent future; it can be done in part by any of our units. It offers a perfectly definite objective, and this is absolutely necessary if the service is to be really efficient. The cost of this purposeful program for all existing centers would be no more, if as much, as present charges.

A system of community participation such as is presented herein will develop, through its own effectiveness, community support financially, and this will gradually reduce the tax charge. Fees for some adult recreation are advisable, and, when wisely fixed and adjusted, the whole recreation charge will be less than at present.

Some Recent Publications on Recreation

BOWEN, LOUISE DE KOVEN.

Safeguards for City Youth at Work and at Play. (With a preface by Jane Addams.) 1914. 241 pp. \$1.62

CURTIS, HENRY S., Supervisor of the Playgrounds of the District of Columbia.

The Practical Conduct of Play. (Home and School Series. Edited by Paul Monroe.) 1915. 330 pp. Photographs. \$2.13

EDWARDS, RICHARD HENRY, Social Study and Service Secretary, Student Young Men's Christian Associations.

Popular Amusements. (Studies in American Social Conditions, No. 8.) 1915. 239 pp. \$1.07

LEE, JOSEPH.

Play in Education. 1915. 500 pp. \$1.62

KNIGHT, HOWARD R.

Play and Recreation in a Town of 6,000. (A Recreation Survey of Ipswich, Mass.) 1915. 98 pp. Illustrations and charts. 25 cents

HANMER, LEE F., and

KNIGHT, HOWARD R., Russell Sage Foundation.

Sources of Information on Play and Recreation. (Publication No. Rec. 136, Department of Recreation, Russell Sage Foundation. Revised edition.) 1915. 35 pp. 10 cents

Promoting Public Health by "Want Ads" and Epigrams

By Fred Niederhauser

IN the public health work of Dr. J. B. Anderson, city health commissioner of Spokane, Wash., publicity is a most important factor. Through the local press, the people of the city are dealt with frankly and openly in every new undertaking of the health department. Dr. Anderson has also formed the habit of giving out short, timely interviews to the newspapers on the questions of food, diet and care of the body. It is evident that he realizes the eagerness with which people read matter pertaining to their physical well-being, and is using that interest in a constructive manner. He finds no difficulty in obtaining wide publicity for such statements, since the local newspapers are always eager to use them. Dr. Anderson has been at the head of the Spokane health department for four and a half years.

His homely way of saying things to the public is undoubtedly responsible for much of his success in gaining the cooperation of the citizens. All the time he is urging them to do a little better; to pay more attention to sanitation and to their personal health. He is always trying to get them to break their own records.

One of Dr. Anderson's publicity efforts took on the nature of a health "want ad" column, from which the following quotations are taken:

WANTED—Public sentiment that will recognize the necessity for cooperation in the prevention of disease.

LOST—By the people generally, appreciation of the vital necessity of fresh air and sunshine. Finder will be rewarded with perfect health.

**WARNING TO CERTAIN BIPEDS,
GENUS HOMO**

Stop making a garbage pouch out of me.
Put good, wholesome food into me. If this warning is not heeded I am going on a strike.
(Signed)
HUMAN STOMACH.

WARNING!

Look!! Listen!!

La Grippe

Pneumonia



Diphtheria

Tuberculosis

STOP SPITTING Under Penalty of Disease

Ordinance No. A722 prohibits expectoration in public places and provides a penalty

Help us Enforce this Ordinance

Department of Health and Sanitation

A POSTER DISPLAYED IN PUBLIC
PLACES IN SPOKANE, WASH.

FOUND—The secret of unsanitary streets, alleys and some homes—carelessness of Mr. Citizen.

**TOO VITAL TO
CLASSIFY**

FOR SALE—Good health. Price reasonable. Location, everywhere. Consideration, wholesome food; attention to personal hygiene; cleanliness around home. Apply Common Sense.

The frequency with which the average person consults the "want ad" column of the daily newspapers made this publicity "stunt" an instant hit, and through it the

Doctor reached many persons who probably could not have been reached in any other way.

Like all other successful health officials, Dr. Anderson is a vigorous enemy of the fly. "The fly is the death angel's commercial traveler," he said in one of his publicity tirades; "he has six legs and a dozen grips on each leg from which he retails his samples." At this year's Interstate Fair, held in Spokane in September, he exhibited a

large fly constructed to scale, to illustrate preventable infant mortality. Photographs of this model and of its surroundings in the exhibit are herewith reproduced. The fly's eyes blinked once every ten seconds, in accordance with this inscription placed above the model: "Death follows in my wake. Watch me blink. Every time I do a baby dies from a preventable cause. Observer! What are you doing to help prevent this drain on human resources?" The card seen between the cannon and the fly reads: "We do not initiate; we transmit ruin and destruction." Just above this is a sign not shown in the picture, which says: "It is within the power of man to render us both harmless." A hemisphere hangs at the back, and is occupied by a skeleton which is driving the cannon and the fly, the purpose being to convey to the mind of the observer that these are two large instruments of destruction which could be overcome by a peaceful disposition on the one hand and cleanliness on the other.

Dr. Anderson's method of dealing with

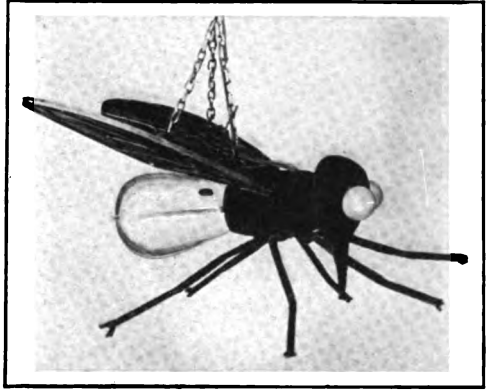


AN EXHIBIT ON PREVENTABLE INFANT MORTALITY

troublesome questions is illustrated by his campaign against spitting in the street cars and other public places. Instead of the conventional sign and red cross notice, with the amount of the fine for violation mentioned, he had notices printed with the fol-

lowing warning in bold letters: "Stop spitting, on penalty of DISEASE."

I cannot resist the temptation to quote



THE FLY THAT BLINKS EVERY TIME A BABY DIES

Dr. Anderson's advice on the use of patent medicines:

FOR WEAK LUNGS—Purchase a nice chamois-lined chest protector. Put it on your pet poodle dog, and take ten deep inspirations (breaths) slowly before an open window each morning. Retire to a warm bath room and take a cold sponge above the waist line. This do daily.

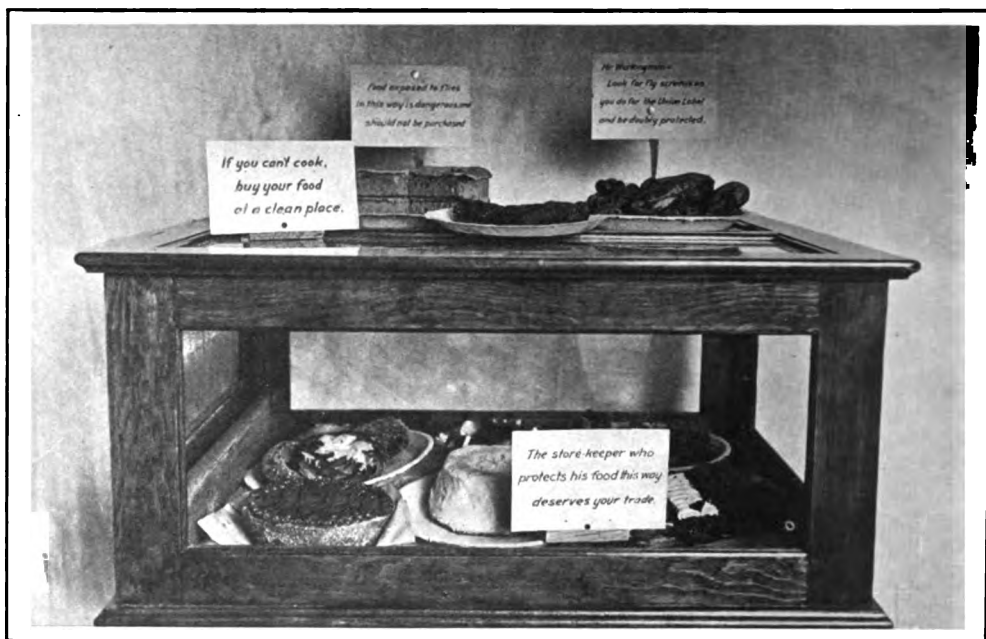
FOR CONSTIPATION—Take three or four of Dr. Patent Medicine's Pink Pills. Roll each pill around the block, using your hand as propeller. Drink one pint of cold water before breakfast and at bedtime. Eat with regularity less meat and more vegetables. Wash your teeth with a toothbrush. Don't forget to thoroughly masticate your food.

FOR DYSPEPSIA—Procure a box of Charcoal Dyspepsia Tablets. Put them in your flower pot. Charcoal is good for house plants. Go to your dentist and have your teeth cleaned and filled. Avoid anger. If fatigued, rest before eating. Select a good, wholesome diet, avoiding condiments and spices. Avoid midnight lunches, consisting principally of salads and coffee.

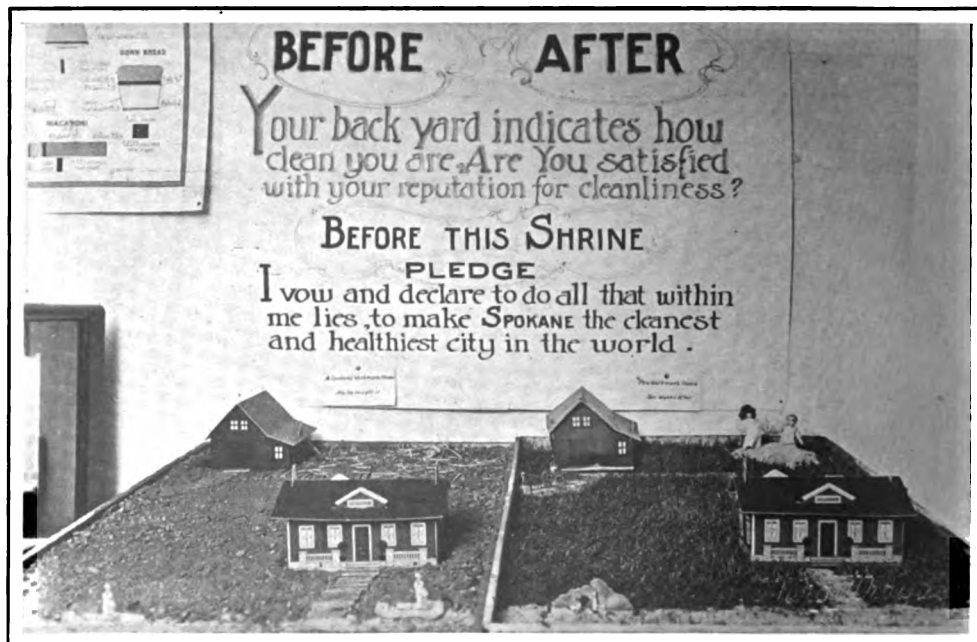
In performing his duties as health officer, Dr. Anderson is always reminding the people that it is not his problem, not his work, but their work, to make and keep Spokane healthy. He is always placing the responsibility upon the people themselves. Here are some of his clean-up epigrams that stick in the memory:

For your sake clean up; for the kid's sake stay clean.

It is not the rubbish of to-day that kills. It is the accumulation of to-morrow's to-morrow



AN EXHIBIT SHOWING THE RIGHT AND WRONG WAYS OF DISPLAYING FOOD FOR SALE



A STRIKING METHOD OF PROMOTING INTEREST IN CLEAN AND WELL-KEPT YARDS
Spokane's Health Commissioner preaches the gospel of cleanliness and good health by exhibits and pledges such as these

added to to-day's that becomes a menace. Clean up, then, to-day, and to-morrow will need no cleaning.

The mirror reflects back in careful detail objects in front of it. The city is the mirror in which the stranger, standing aside, gets a reflection of the citizenship. A dirty, ill-kept city reflects what?

If you persistently maintain a foul and reeking back yard, can you consistently pray, "Thy Kingdom come on earth"?

The following dramatic bit has proved effective:

CAMP PROSPERITY

SAFETY-FIRST: Halt! Who goes there?

VOICE: General Prosperity accompanied by twins.

SAFETY-FIRST: Advance, General Prosperity, and give the countersign.

VOICE: The Twins—"Cleanliness" and "Sanitation."

SAFETY-FIRST: Proceed, General Prosperity, together with your close allies. The Twins are indeed welcome, and they shall have all the care and attention this camp can bestow.

Through a system of grading and publicity he has succeeded in getting the restaurants to competing with each other for the highest percentage of cleanliness.

As an advocate of publicity, the Doctor seldom turns down an invitation to furnish a health exhibit for a show, fair or exposition. At the National Country Life Congress held in Spokane, his exhibit contrasting a sanitary and an unsanitary farm drew much favorable comment. The health exhibit furnished by him and his staff for the Interstate Fair held annually in Spokane was borrowed *in toto* last year for the exhibit at the Washington State Fair at North Yakima, and immediately after the meeting it was borrowed by the Washington State Board of Health and used by them for several months as a part of the traveling state exhibit.

Items of Municipal Law

Regulation of jitney Busses

Under the power of a city council to promote the safety of pedestrians and passengers upon local means of conveyance, it is held by the California Supreme Court that an ordinance is valid which forbids operation of jitneys in the city by persons who have not obtained a permit to do so, paid a reasonable license fee, and given bond in the sum of \$10,000, or taken out an insurance policy to that amount, indemnifying against injuries caused by their negligence. It is also decided that it is a reasonable regulation to require applicants for a permit to have had at least thirty days' experience in driving an automobile in the city. (Ex parte Cardinal, 150 Pacific Reporter, 348.)

✦ ✦

Ordinance Rough on Rats

The ordinance of the board of health of the city of New Orleans providing for the rat-proofing of all buildings and superstructures in the city, for the purpose of suppressing the bubonic plague, is a valid exercise of the police power of the state in the

interest of the safety of the people. "Every possible presumption is in favor of the validity of such an ordinance until the contrary be shown beyond reasonable doubt." (Louisiana Supreme Court, City of New Orleans vs. Ricker, 69 Southern Reporter, 273.)

✦ ✦

Enforcement of Regulatory Ordinances

It is within the power of a city to adopt and enforce an ordinance forbidding taxicab drivers to enter upon passenger station premises and wharves for the purpose of soliciting transportation of persons or baggage, but the ordinance is not violated by the mere presence of drivers in such places while not soliciting business. The chief of police, acting in an official and not a personal capacity in causing the arrests of drivers, is not personally liable for costs assessed on award of an injunction against unlawful arrests under such an ordinance. (Washington Supreme Court, Seattle Taxicab & Transfer Co. vs. City of Seattle, 150 Pacific Reporter, 1134.)

Needed in Every City—Adequate Power and Common Sense in Fire Prevention

By Clement J. Driscoll

Of the New York Bureau of Municipal Research

"The buildings consumed [by fire in 1914], if placed on lots of 65-foot frontage, would line both sides of a street extending from New York to Chicago. A person journeying along this street of desolation would pass in every thousand feet a ruin from which an injured person was taken. At every three-quarters of a mile in this journey he would encounter the charred remains of a human being who had been burned to death."—From page 12 of the Government Report entitled "The Fire Tax and Waste of Structural Materials in the United States," Bulletin 418, Department of the Interior, U. S. Geological Survey.

It would be interesting to know how many municipal and state officials throughout the country have read this statement, presenting as it does the tremendous fire waste of the country and the awful sacrifice of human life accompanying it.

It would be more interesting to know how many of the municipal and state officials who have read this warning have made inquiry as to how large a contribution their communities have made to this waste of property and human life, and what steps they have taken to surround the people of their communities with proper safeguards which would tend to reduce the sacrifice of human life and the destruction of property due to fire.

Indeed, it would be more than interesting to ascertain, if possible, how many of the public officials, both state and municipal, upon reading this statement, have to themselves admitted their share in the responsibility for the children made orphans, mothers made widows and families made homeless as a result of their official negligence, indifference or gross carelessness.

IN discussing the fire waste of the country, it is to be remembered that, like the health problem of the community, the problem of fire protection is essentially one of dollars and cents. In other words, like health, protection against fire is a purchasable commodity and can be secured in a large degree by the expenditure of money. But the expenditure of money in the interest of fire protection must be in accordance with intelligent procedure and to the end of obtaining a minimum number of fires rather than wholly toward efficiency in the extinguishment of them.

It is appalling to note that in this country, with a few exceptions, the vast sums of money expended for fire protection are devoted almost entirely to the development of efficiency in fire extinguishment.

The community with the largest fire-

houses, the prettiest painted automobile apparatus and the best-dressed firemen, is frequently confident that it is being adequately protected against destruction by fire, although not one dollar may be expended in that community for the prevention of fire. The same community, with its highly prized and properly admired fire department, will sometimes be without even a building code.

The Bureau of Municipal Research, as a result of surveys made in many cities, large and small, throughout the United States and Canada, has concluded that the increased fire waste and loss of life due to fire and panic may be attributed principally to the following causes:

1. The absence in most communities, with the exception of a few large cities, of adequate building regulations

2. The lack of requirements providing for placing buildings of the older type of construction in a condition which would render them reasonably safe for habitation
3. The absence in most cities, small and large, of proper fire prevention inspection
4. The failure in practically all of the cities of the country to provide for an adequate inspection of dwellings, in which the majority of fires occur
5. The failure of the legislatures to provide municipal officials with adequate power to enforce orders relative to fire prevention
6. The division of responsibility for the inspection of buildings and the enforcement of fire prevention regulations so as to make it especially difficult to fix responsibility for negligence and carelessness in this kind of work, as demonstrated by the recent Diamond Factory fire in New York, which caused a loss of 12 lives
7. The failure of the educational departments of the country to provide for the proper instruction of the children in the schools in the matter of fire prevention
8. The inadequacy of the laws with relation to fire insurance, in that fire insurance companies are not prohibited from paying a loss until the municipal fire department authorities have certified that the fire was not in any way due either to the gross carelessness or culpability of the insured
9. The neglect of officials to provide for the scientific training of firemen

All of these causes can be removed in whole or in part in communities of all sizes without the expenditure of any large sums of money. The lack of building regulations throughout the country, as found by one investigating fire-protection conditions every day, is most amazing. In many communities, and indeed in cities of over 100,000 population, not only are the building regulations in force inadequate, but in many instances it is scarcely possible to find a complete copy of the building requirements, because the regulations were adopted so many years ago.

Communities desiring building development, for selfish reasons, frequently permit the construction of fire traps within their city limits rather than lose a large factory or mercantile establishment which is about to locate in their city.

But a few days ago in a city within 40 minutes of Broadway, tenements housing 12 families were observed, being constructed entirely of wood and in such a manner as not only to invite their destruction by fire, but to make the escape of the tenants in case of fire almost impossible.

To provide proper fire-prevention measures it is essential that the city first guard against the construction of buildings of a type which creates a hazard that cannot be reduced by any amount of inspection or auxiliary fire-fighting equipment.

The municipal authorities must be granted the broadest possible powers in the matter of inspecting and enforcing orders relative to fire prevention. The power to enforce these orders must be centralized in one official or one official body in the community. In almost every city where the state undertakes, through a factory or labor department or state fire marshal, to inspect and supervise buildings of a certain class in all communities within the state, regardless of whether the community is equipped with its own fire department, it is the experience of the Bureau that inefficiency results. There is a clashing of authority between the state and the municipal officials which invariably results in permitting dangerous hazards to exist.

The safeguarding of lives and property in a city is primarily the function of the officials of the city itself, and every building within that city should be under the immediate supervision, in so far as fire prevention and protection are concerned, of the fire department of that community, and that department should be held strictly to account for the conditions found to exist.

It is wholly illogical to enact legislation which places five houses on one block under the jurisdiction of the chief of a fire department, and two or three houses on the same block under the exclusive jurisdiction of state officials, when the responsibility, after all, for fire extinguishment and the safeguarding of the lives of the people upon that block is placed upon the shoulders of the chief of the fire department.

Moreover, to reduce the fire waste it is necessary that the fire-fighting force, not only the chief, but all of his firemen as well, have a thorough understanding of every building, its construction, its contents and the hazard it presents within the city. The records of the fire department, if it is to be efficient, must include an adequate description of these buildings to provide the officials of the department with a guide whenever they may be called upon to extinguish a fire therein.

Needed in Every City—A Municipal Fire-Prevention Commission, with the Local Fire Chief as Executive Officer

Where the state has, for the most part, failed in legislating upon the subject of fire prevention is in its attempts to enact statutes inflexible, complex and intricate, which seek to meet all conditions of building construction. This failure is especially notable regarding the installation of sprinklers. The attempt of many states to describe through legislation the kind and character of a building in which a sprinkler system shall be required has in a large degree proved a failure, for the reason that it enabled dishonest, greedy builders to design buildings which, although constituting a greater hazard than the type of building in which the statute demands the installation of a sprinkler system, do not technically come within the class established by the statute. Therefore, cities should urge that the state give them the power, through a properly constituted fire-prevention commission, of which the fire chief should be the executive officer, to establish rules and regulations and to enforce these rules in the same manner and under the same conditions as if they had been enacted as statutes. For the purpose of establishing a practical, inexpensive and workable body, this commission should consist of the centralized executive, whether he be a city manager or a mayor, the superintendent or inspector of buildings, two citizens, to serve without salary, and the chief of the fire department.

The whole aim of this commission should be in effect to provide for a campaign of education in matters of fire prevention, to create and enforce rules and regulations which will remove from the buildings of the community conditions which make them especially hazardous, to utilize the services of the uniformed firemen in the making of fire-prevention inspections, and to support the chief of the fire department and his men in reducing the fire waste of the community through inspections which will be properly recorded and reported upon.

As an aid to the firemen in the making of their inspections, and as an aid to the officers of the department in the fighting of fires, all inspections should be reported in detail on specially provided printed forms,

upon which there should appear headings calling for detailed information arranged in such a manner that the inspector or fireman must have carefully inspected the premises in order to fill out the answers. So as to insure the removal of conditions reported upon, the regulations of the fire-prevention commission should be so drastic as to empower the chief of the fire department to force the removal of the hazard by causing the premises to be vacated in the event of a refusal to remedy the condition. This power vested in the chief would go a long way toward making safe unsafe buildings.

The average chief of a fire department is very anxious to reduce his fire loss and the hazardous conditions which result in fire, and his enthusiasm is far greater in this matter than that of the prosecuting attorney or the courts with all of their legal technicalities and procedure.

Only a few days ago, in a city a short distance from New York, a condition was observed in a large building which placed that building in constant danger of destruction by fire, and every minute that it remained brought that building closer to destruction, yet the chief of that city had twenty days before requested the prosecuting attorney to proceed against the owner of the property in order to have the hazard removed. His power ended with the filing of this information with the prosecuting attorney, and beyond that he had no method at his disposal either of hastening the remedy for the condition or speeding the prosecution. Consequently, the hazard remained. A fire occurring in this building as a result of this condition could cause a conflagration, and yet the insurance companies would willingly pay the loss and the prosecution of those at present responsible would probably be forgotten.

It is our experience that the fire-fighting force headed by a uniformed chief is in most instances the only body in the community enthusiastic in the matter of enforcing fire-prevention orders. Consequently, to obtain the best results, it is urged that the power of the uniformed chief to enforce conditions which will tend to minimize the chance of fire be everywhere increased.

Last year, of a total of 12,011 fires occurring within buildings in the city of New York, 8,897, or more than 74 per cent, occurred in tenement and private residences.

Needed in Every City—Inspection of Dwellings by Firemen

In almost all of the cities in the United States the majority of the fires occur in dwellings, and yet, except in New York City and a few other places where there is in operation a special tenement-house statute, there is practically no inspection of dwellings. The result is that the whole effort in cities where there is a fire-prevention inspectional service is in the direction of inspecting the large buildings, such as factories, hotels, and the like. These, for the most part, are already the subject of inspection by many different agencies, such as state department, insurance companies, and in many cases engineers employed by the owners of the property, but the dwellings, in which are housed numbers of people and in which the greatest number of fires occur, receive little or no attention from the officials charged with the duty of preventing fires. Not only are they not inspected by the owners and tenants, but they are not the subjects of advice or counsel from experts in matters of fire prevention.

True, a campaign of education through public schools and social centers is effective in bringing to the notice of the occupants of dwellings common practices conducive to fire; but frequently the housewives who are present at these gatherings never visit the cellars of their own homes, and do not

appreciate the extent of the danger which exists in the congested cellar, clothes closet and garret or in the misplaced, unprotected gas jet.

These conditions can only be pointed out to the housewife by the fireman who inspects her home. Moreover, it is the experience of fire chiefs in cities where house-to-house clean-up campaigns have been conducted that the tenant in the dwelling is ever ready to comply with the requirements and orders of the fire department without even the necessity of a written order from the chief. The dangerous condition pointed out by the fireman in the home is usually remedied as quickly as possible, without opposition, while the dangerous condition in the large factory and public building usually is not removed until after it has been argued in several courts of law.

When it is remembered that 60 per cent of the fires in America are caused by carelessness, and that 2,000 lives are sacrificed and 6,000 persons injured in fires annually, it should not be difficult to bring about reforms which will make the cities safer.

If the officials would devote as much energy to developing the fire-prevention work of the fire department as they devote to the fire-fighting side it would not be long until America could boast of as low a fire waste and as little loss of life in connection with fire as the European cities.

Constitutional Amendments in Three States

Important Forward Steps Taken at the Recent November Elections

Massachusetts

AT the November election the voters of Massachusetts adopted two amendments to the state constitution. One of these empowered the Legislature "to authorize the commonwealth to take land and to hold, improve, sub-divide, build upon and sell the same, for the purpose of relieving congestion of population and providing homes for citizens." The other gave authority to impose and levy a tax on incomes.

Pennsylvania

In Pennsylvania three constitutional amendments were adopted. They provided:

1. For the increase of the debt of the city of Philadelphia to the extent of three per cent of its assessed valuation, if approved by the voters of the city at a public election, the moneys thus derived to be used for the exclusive purpose of port and transit development;
2. That legislation may be enacted requiring the payment of compensation for injuries to employees and for occupational diseases "regardless of the fault of employer or employee";
3. For the registering, transferring, insuring and guaranteeing of land titles by the state or by the counties thereof.

Maryland

Four important constitutional amendments were adopted.

1. The first of these stipulates that the General Assembly shall provide for the separate assessment of land, improvements and personal property, and that all taxes thereafter levied by the state, the counties and the city of Baltimore "shall be uniform as to land within the taxing district, and uniform within the class or sub-class of improvements on land and personal property which the respective taxing powers may have directed to be subjected to the tax levy." This amendment, therefore, gives to the people of Maryland a large measure of home rule in taxation, including the right to reduce or abolish taxation on improvements or personal property.

2. The second amendment gives to the

counties and the city of Baltimore the power, subject to certain-legislative definition of the jurisdiction in the first instance, to form their own charters and amend their own laws. This is coupled with a 20 per cent initiative.

3. By the third amendment the General Assembly is given the power to provide "(a) for the suspension of sentence by the court in criminal cases, (b) for any form of the indeterminate sentence in criminal cases, and (c) for the release upon parole . . . of convicts imprisoned under sentence for crimes."

4. The referendum becomes effective in Maryland, by the provisions of the fourth amendment, on the petition of 10,000 voters on state-wide measures and on petition of 10 per cent of the voters of any county on purely local laws.

Proportional Representation Tried Out

By Clarence Gilbert Hoag

THE first election of a public body in the United States or Canada by proportional representation took place in Ashtabula, Ohio, on November 2.

The number of seats in the council of Ashtabula is seven. The object of the proportional system is to assure a seat in the council to any group of voters in the city numbering approximately a seventh of the voters who unite in the support of a candidate. The election was at large, nominations were made by petition, and the ballot was non-partisan and preferential.

The first-choice votes received by the fourteen candidates were as follows:

McClure	892	Corrado	198
Hogan	322	Tilton	193
McCune	309	Flower	147
Gudmundson	292	Carlson	138
Earlywine	289	Cook	114
Rinto	237	Loose	107
Briggs	211	Lampela	25

As the total number of valid ballots was 2,972, a moment's calculation showed that any candidate who got 372 votes was sure of election, as not more than seven of them could get that number each. McClure, therefore, who had 392 first-choice votes, was at once declared elected and the 20 ballots he had received above the needed 372 were transferred to other candidates, *each one to the candidate preferred next to Mc-*

Clure by the voter who had cast it.

The next step was to eliminate the candidates one by one, each time the one *then* lowest on the poll, transferring each of his ballots separately to the unelected and uneliminated candidate next preferred by the voter who cast it.

The upshot of the count was the election of Messrs. McClure, Hogan, McCune, Earlywine, Gudmundson, Briggs and Corrado—in that order. This council is declared by the newspapers of Ashtabula to represent the whole city with extraordinary fairness. The *Beacon* points out that it represents the business, professional and laboring men; the Republicans, Democrats and Socialists; the native-born, the Swedes and the Italians; the wets and the drys; the Protestants and the Catholics, and the different wards and sections of the city. It is only a council thus truly representative of all the principal interests and opinions of the city, proportionalists contend, that is fit to be entrusted, according to the fundamental principles of democracy, with the spending of the taxes of all. Proportionalists hold, too, that admission to the council of the true representatives of all sections of public opinion is the real secret of securing the co-operation of all in the government.

The Visualizing of Proposed Municipal Improvements

Projects in Portland

By Haldane White

VISUALIZATION of bridges, viaducts, boulevards and other municipal projects has been found by officials of Portland, Ore., to be an extremely successful means of demonstrating to the public the need and the general appearance of projects proposed. It has been so successful in the Public Works Department of Portland that it is being used in connection with nearly all such undertakings.

The Portland system of visualization was worked out by H. W. Holmes, former chief of the Municipal Bureau of Highways and Bridges. A photograph is taken of the site of a bridge, viaduct, highway, boulevard or other project, and the plan is painted in on

the photograph to exact scale, showing accurately just how the structure will look when completed. The photograph gives to those interested in the project a much better idea of how the work will look when finished than can be shown by blue prints, tracings or perspectives.

The most recent visualization made in Portland is the proposed viaduct over the Oregon Washington Railway & Navigation Company tracks at East 60th Street in East Portland. It is to be paid for with money derived from an assessment district. The taxpayers wanted to know what their viaduct would look like, so the photograph was taken and the structure drawn in to exact scale. The same thing has been done with a number of other projects, and the results have been far better than could have been secured from reports and map drawings.



SITE OF PROPOSED VIADUCT IN PORTLAND, ORE.



PROPOSED VIADUCT VISUALIZED TO EXACT SCALE ON PHOTOGRAPH

Camden's Contemplated Changes

By Gen. John A. Mather, Jr.

President, Camden City Plan Commission, Camden, N. J.

THE particular improvement suggested by the City Plan Commission, of Camden, N. J., as visualized in the accompanying pair of illustrations, provides for changes in the street layout at the intersection of two of the most important thoroughfares—Broadway and Federal Street. The work of removing the unsightly telegraph, telephone and wooden trolley poles, is already progressing, thanks to the earnest coöperation of the city officials and the Public Service Corporation. The present wooden trolley poles are to be replaced with iron poles, and adequate ornamental street lights will be installed. Twelve feet is to be taken from the sidewalk in front of the Court House, increasing the street space to that extent at this most congested point. Additional area will be secured for vehicular traffic by moving the curb line back 75 feet at the intersection of Federal and Arch Streets, and increasing the radius of the curb lines



THE SITE OF CAMDEN'S PROPOSED IMPROVEMENT

at Broadway and Federal and at Sixth and Arch Streets.

The work of the City Plan Commission is gaining recognition not only from the officials but also from newspapers, civic organizations and the general public, and it is a pleasure to feel that its efforts are meeting with the approval of the community. The city's population is about 105,000, and hundreds of new buildings are being erected to meet a more than normal increase in new residents.

There is plenty of work ahead for the City Plan Commission. The improvements already proposed are only a beginning. Plans are now being prepared for improvements at various points in the city, including a comprehensive and effective one for a boulevard and fine residential section. A complete survey and plan of the city is being prepared under the supervision of the expert advisor of the Commission, Dr. Joseph Caccavajo. It is not too much to predict that within a very short time the results obtained in Camden will serve as another argument in favor of the appointment of city plan commissions in all the growing municipalities.



THE CAMDEN IMPROVEMENTS VISUALIZED

Reducing the Cost of Street Improvements

By Chester B. Masslich

A FLORIDA city has attracted some attention because of a claim that it is saving 15 per cent of the former cost of street improvements. What it has done is to apply business principles to the financing of street contracts. To be sure, it required a special act of the legislature to authorize the application of these principles, for the general laws gave no such authority.

Miami was growing. It needed better streets, and a reform in street-improvement procedure was necessary. The mayor brought together the heads of his departments, and it was agreed that their own experiences in street paving had not been altogether sufficient for their guidance and that a consultation with experts would be desirable. The finance committeeman had more than a local knowledge of business and financial conditions, and he sought the views of investment bankers in the North. The city attorney called to his assistance outside counsel experienced in the law of municipal finance. The engineering department consulted experts in its line. Together they framed the new charter and the Legislature passed it.

What they sought was primarily saving of cost and more directness and expedition in carrying the construction and financing to completion, coupled with justice to the abutting property owner. The most uneconomical part of the old charter was the time-honored provision that the contractor must accept debt certificates, notes or bonds of the city if the city chose to make payment in that way. Miami had been not unlike other cities in overlooking the contractor's need of funds to pay employes and purchase material during the period of construction. It had overlooked the fact that he must hypothecate or sell any municipal paper he might receive, and that he would ordinarily do that at a disadvantage to himself, because he would be engaging in a field of endeavor not his own. Besides, he could not know when making his bid that the paper issued would be legal, nor even if legal whether he could find a market for it. All contractors are aware of these disadvantages, and it is a matter of common knowl-

edge that they attempt to save themselves from risk of loss on securities by increasing their bid for the work. In effect, they compel the city to buy an insurance policy for them and to pay a heavy premium for it.

To change the charter in this respect was not quite a simple matter. Special assessment laws are necessarily rather involved. One of the necessary changes was to provide means by which the city might obtain cash for the payment of the contractor, and obtain it *in time to make monthly payments*. The old charter had authorized bond issues. These were marketable, but at no very satisfactory price, for there were investors who hesitated to buy even a general city obligation where no other mode of payment had been expressly provided than through the rather precarious collections of special assessments. Not all the big insurance companies that were seeking to find investment of their funds in good municipal securities cared to buy Miami's bonds. In still other respects they fell short of measuring up to the standard of gilt-edged investments. The new charter was, therefore, so drawn as to require the bonds to mature in annual instalments within ten years, and to require an annual tax levy upon all taxable property within the city to pay the principal and interest next accruing. No part of this tax levy could be omitted except to the extent of funds actually in hand at the date of the levy and pledged to the payment of the securities. Interest and principal were required to be payable in New York in gold. Fractional bonds were eliminated and all were required to be issued in denominations of \$500 or \$1,000. A requirement was made that no bonds should be sold at private sale except by unanimous vote of the council, nor at less than par without a vote of five-sevenths. Bonds with these features met the approval of the most critical investors, and the insurance companies no longer hesitated to take them.

But it was necessary to provide for a sale of the bonds before the time for the first monthly payment on the street contracts. Authority was accordingly given to sell them at any time after the passage of

a resolution definitely ordering the improvement. This provision required that the amount of the bonds should be based on estimates instead of actual cost, which was not quite revolutionary, although in the majority of street-improvement laws it seems to be assumed, contrary to all usage in private business, that a contract for work should precede the arrangements for financing it.

These changes paved the way for the main feature of the new plan—the promise of cash payment to the contractor. In order to prevent a new administration from overlooking this positive advantage, the new draft required that the notice of the letting of jobs should definitely state that the successful bidder would be paid in cash on monthly estimates, and would not be required to accept debt certificates or any other municipal paper in payment. And when Miami reached this point it was, if not quite alone, at least in a very select minority.

It was foreseen that no extensive plan of street improvement could be carried out without the coöperation of those who were to be taxed, and it was determined to give the property owners every opportunity for consultation and protest. The new charter provided that they were to be heard before the final passage of the resolution ordering the work, and again before the confirmation of the assessment. It recognized the distinction between different kinds of street, sidewalk and sewer improvements in respect to the distribution of cost, so that the city's share of certain improvements might be greater than its share of others, and so that the division of the remaining cost might be based upon benefits accruing to the property assessed. In doing this the frontage rule was maintained for most improvements, as a *prima facie* standard only, subject to alteration if the circumstances failed to sustain the justice of the rule. Individual improvements were required to be separated in their inception and at the time the assessments were laid, in order that property owners might present their objections without the embarrassment of having to object to two or more improvements put through at the same time as a log-rolling measure; but for economy of administration the charter provided that at certain other stages of the proceedings, as

in the letting of contracts and issuing of bonds, improvements might be combined.

The avoidance of red tape and the prompt, efficient conduct of the whole proceeding required attention. And so a calendar of procedure was prepared which would permit the letting of contracts within three weeks of the initial proceeding and the confirmation of the assessments two weeks thereafter. An expeditious method of determining the legality of the assessments was afforded by giving every property owner the right to contest the assessments or the amount of his benefits by a special proceeding in court, with the right of appeal, the costs to fall on the property owner if he failed to reduce his assessment by 10 per cent. Provision was made by a short statute of limitations for setting at rest, after a brief period, all questions affecting the legality of the assessments. As a further assurance of their legality it was provided that all assessments should be paid within thirty days after confirmation unless attacked in this special proceeding or unless the property owner signed an agreement waiving all questions of irregularity and illegality. On his signing that agreement he was to have the privilege of paying his assessment in instalments during a period of years. The other changes made were largely to clarify the act.

The proof of the pudding was in the eating. As soon as the charter had been adopted a contractor whose bid had been accepted offered a generous reduction on condition that he be paid in cash. The saving on this \$70,000 contract is said to have been \$11,000, and the officials believe that on new contracts the saving will be even greater.

What Miami has done may, in large part at least, be accomplished by other cities. The difficulties to be surmounted lie largely in the inclination to follow precedent, even though proved defective by experience and business judgment. In some cases constitutional limitations will, in practice, prevent the issuance of general city bonds for special assessment work. Other obstacles may be found in some states. But no contractor who has ever bid on municipal paving jobs has a shadow of doubt that the field for improvement in the economical conduct of municipal street improvements is large.

WATER

SUPPLY

The Ogden Water Supply Discovery

By David Larson

THINK of discovering a subterranean lake or stream of pure water which now augments the municipal water-supply to the extent of 12,000,000 gallons every time the hands of the clock go around! That is what was done in Ogden, Utah, and whenever the city needs more water, the city commissioners merely order another six-inch pipe or two set, and a fountain of pure water springs up.

Up to a year ago the city was supplied with water from mountain streams. This supply was pure and cool, coming from the snow treasures high in the mountains. The pipe line carrying the water to the city was never touched by daylight until it reached the reservoir above the city. But Ogden is a growing city, and there was a call for more water, so the commissioners started a search. They found just what they were seeking, and now Ogden has an abundant water supply.

This is what happened. Ogden has the commission form of government; three men act as city managers. Mayor A. G. Fell, Commissioners T. S. Browning and Chris Flygare went through the famed Ogden Canyon—the source of the old water supply—into the Ogden Valley. This valley is bowl-shaped and surrounded by mountains. It had been known for years that artesian wells gave an unlimited supply in this valley. It was good water, and the commissioners wanted it, so they obtained an option on 75 acres of land, which they later purchased, and started to drill. This was in October of last year. The test well, a 2-inch pipe, struck water at a depth of a little less than 100 feet, and by the end of the year ten 4-inch pipes were pouring out water to capacity.

Early this spring 6-inch casings were used with the same favorable result. One of these wells is gushing out 1,260,000 gallons of water every 24 hours. Every well has been as active during these months as when it was placed, and that too during the dryest season this state has known. Drilling additional wells has seemed to have no effect on the full flow of the others.

To prove the scope of the subterranean flow, wells were drilled in the four corners



ONE OF THE NEW ARTESIAN WELLS IN
OGDEN'S WATER SYSTEM

Flowing 1,260,000 gallons every 24 hours

of the 75-acre tract, and water was found in each case, which, it is believed, demonstrates that the underground water channels are extensive. As to the purity, the water has been tested, examined, reported and passed by all sorts of boards of chemists and censorships and declared to be perfectly pure. As to permanency of flow, Dr. Frederick J. Pack, of the University of Utah, makes the following statement:

"The Ogden Valley presents as nearly ideal conditions for the existence of artesian water as can well be imagined. The valley proper is somewhat circular in form. Abundant streams of water drain in from the north, east and southeast, and all converge toward a point near the southwestern part of the valley, where they unite, and then pass from it through the narrow defiles of Ogden Canyon. It is just at this convergent point that the wells have been drilled."

Ogden's municipal water supply has been increased so as to supply a population of 100,000, double what is needed at this time. The cost has been small compared with the results. The purchase of the ground, the drilling of wells, the intake tank and buildings, and the 36-inch pipe line to connect with the distributing system cost about \$150,000. The system has been a money-maker for the people; in fact, the net profits have been more than \$60,000 a year, so it will readily be seen that the added expenditure for the new supply will soon be financed by the system itself.

A great deal of the credit for the efficiency of this municipal water system is due to the commission form of government, under which three men manage the affairs of the city corporate as they would those of a private corporation.

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A Water Tower of Picturesque Design

A water tower of both artistic and substantial structure is shown in the accompanying photograph. It was built by the Chicago Bridge and Iron Works for the village of Riverside, Ill. It replaces a brick tower built in 1870, which supported a wooden tank. This tank had to be rebuilt once or twice, and, finally, in 1913, it was burned, in spite of the fact that it contained water. It was then decided to put up a more satisfactory tower, and under the supervision of Dabney Maury and Douglas Graham as consulting engineers, and W. D.



WATER TOWER, RIVERSIDE, ILL.

Mann, as architect, the present tank was erected.

The plan involved carrying out the appearance of the original brick tower, while adding 20 feet to its height. An elliptical-bottom steel tank of 150,000-gallon capacity was installed. The steel plate roof and ornamentation, as well as the new brick work, complete the simple, harmonious and effective design.

♦ ♦

Ownership of Water Meters

To the Editor of THE AMERICAN CITY:

The correspondence in THE AMERICAN CITY on the subject of the ownership of meters has been interesting to me in view of the fact that the city of Duluth has recently taken over the ownership of 8,000 or more meters that were installed after the acquisition of the plant by the city, at the expense of the consumer, the consumer paying in some instances as high as \$12 a meter. The advantages of the installation of meters have long been recognized, not only for the purpose of establishing a just charge for service rendered, but also to reduce the cost of operation of the plant, the total consumption of water, and capital expense in connection with the construction of water mains and reservoirs.

The Water and Light Department of Duluth, after the acquisition of the plant from the private company in 1898, was unable from lack of funds to furnish meters to its customers, and was obliged to require customers to bear the expense of installation. In other words, the Department purchased a meter and installed it, making a charge as high as \$14 or \$15. This, however, has been gradually reduced, until the charge at the discontinuance of the policy, on July 1 of the present year, was \$10 each. A great deal of opposition has been made to this policy of forcing meters upon the consumers, perhaps increased to some extent by the fact that the flat rate charge of \$6 per year for a five-room house, with \$2 each for bath, toilet and lavatory, was low. The consumer objected to the installation of meters in almost every instance, not only on account of the initial charge, but also for the maintenance charge for repairs, which he contended the Department had no right to make without his authority; in many cases the consumer absolutely refused to pay the bill. Other trouble was experienced by the customer's failing or refusing to supply a suitable place for the meter to prevent its freezing, his contention being that he had a perfect right to allow his own property to freeze up if he so wished, and that the city had no right to complain, much less to charge him for repairs upon his own property.

Commencing with July 1 of the present year the Department is furnishing all new customers with meters and setting them free of charge, and in addition is taking over the old meters, if the customer so elects, at a price of \$9 for a ½-inch meter, less 8 per cent annual depreciation, diminishing value basis. This allows \$2.59 for a meter fifteen

years old; for all meters of longer age, a flat allowance of \$2.50 each is made.

A complete table showing allowances for all sizes for the various periods up to fifteen years and over is given below. The total allowance to customers for their meters will be between \$50,000 and \$60,000. This, however, is not paid in cash, but is credited on each customer's account, either for gas or for water, or for appliances purchased of the Department, as he may elect. Some of the credits, of course, will pay the customers' bills for a year or more; other customers' credits would not be sufficient to pay for one month's bills.

As a whole, this policy has been very satisfactory to a large majority of customers, although a few, as is usual in similar cases, complain of being defrauded. One of the principal arguments used when a customer has paid \$10 or more for his meter and receives a much smaller amount than this, say as low as \$2.50, is that the city is making a big profit by the policy of taking over the meters. It is easily shown, however, that a customer could not expect to receive full compensation for the amount paid for his meter, any more than in the case of any sale of second-hand property. The case of meters, however, is different in this respect: while the city takes back the meter at a depreciated value, it still leaves that particular meter in exactly the same position, performing the same service to the customer that it did before he conveyed title to the Department.

While the Department proposes to furnish and maintain meters free of charge to the customer, it has notified the customer that he will be held responsible in every instance for damage to the meter caused by freezing, scalding, or other act for which

ALLOWANCES FOR METERS

8 PER CENT DEPRECIATION—DIMINISHING VALUE

Date Set	$\frac{3}{4}$	$\frac{1}{2}$	1	1½	2	3	4	6
1915.....	9.00	13.50	18.00	33.50	56.00	85.00	175.00	375.00
1914.....	8.28	12.42	16.56	30.82	51.52	78.20	161.00	345.00
1913.....	7.62	11.43	15.24	28.35	47.40	71.94	148.12	317.40
1912.....	7.01	10.52	14.02	26.08	43.61	66.18	136.27	292.01
1911.....	6.45	9.68	12.90	23.99	40.12	60.89	125.37	268.65
1910.....	5.93	8.91	11.87	22.07	36.91	56.02	115.34	247.16
1909.....	5.46	8.20	10.92	20.30	33.96	51.54	106.11	227.39
1908.....	5.03	7.54	10.05	18.68	31.24	47.42	97.62	209.20
1907.....	4.62	6.94	9.25	17.19	28.74	43.63	89.81	192.46
1906.....	4.25	6.38	8.51	15.81	26.44	40.14	82.63	177.06
1905.....	3.91	5.87	7.83	14.55	24.32	36.93	76.02	162.90
1904.....	3.60	5.40	7.20	13.39	22.37	33.98	69.94	149.87
1903.....	3.31	4.97	6.82	12.32	20.58	31.26	64.34	137.88
1902.....	3.05	4.57	6.09	11.33	18.93	28.76	59.19	126.85
1901.....	2.81	4.20	5.60	10.42	17.42	26.46	54.45	116.70
1900.....	2.59	3.86	5.15	9.59	16.03	25.50	52.50	112.00
Previous.....	2.50	3.00	4.80	9.00	15.00	25.50	52.50	112.50

he is responsible or which he can prevent. It would seem to be more reasonable and logical for a utility to charge a customer for repairs or damages to its own meter than it would to charge a customer for repairs to his meter, especially if made without his authority or against his wishes.

We believe that the policy of the Department-owned meters is going to work out satisfactorily to both the customer and the Department, and that the extra cost to the Department of furnishing and maintaining the meters is a much better use of its surplus revenues at the present time than reducing its water rates would be.

D. A. REED,

Manager, Water and Light Department,
Duluth, Minn.

✦ ✦

Lighting the Drinking Fountain

A particularly attractive public drinking fountain which occupies a conspicuous location at the head of a square in Lynn, Mass., is shown in the accompanying illustration. The structure is of concrete in simple and artistic design. On top of the canopy are



LIGHTED DRINKING FOUNTAIN AT LYNN,
MASS.

four incandescent electric lighting units, each inclosed in a glass globe about 8 inches in diameter.

The Bubbling Fountain

This is a magic cup
That needs no lifting up,
And gushes the cool drink
From an ever-flowing brink,
From an ever-filling hollow.
As you swallow,
You can feel the water go
Against your lips with tumbling flow
And all its noises hear,
As if you were a deer
Or a wild goat,
Sucking the water in your throat
Where a little brook goes by
Under the trees and the summer sky.
Oh, it is fun to drink this way!
Like a pleasant game to play,
Not like drinking in other places.
And it is fun to watch the faces
That come and bend them at this urn.
Something you can learn
Of each person's secret mind:
Know which is selfish, which is kind;
Those who guard their dignity,
And those whose curiosity is turning cold.
Many of the young are old
And think

A drink is nothing but a drink.
Water is water: always the same.
They could not turn it into a game.
Charily, with solemn mien,
They lean—
These incurious of heart!—
And, hurrying, depart.
But the children know 'tis a gay, rare thing
To drink outdoors from a running spring;
And laugh
And quaff,
As if their zest
Would challenge to a test
The bounty of this store
Which gives, and still has more.
They drink up all they can:
Wait in turn to drink again.
As I watch the reaching lips
It seems to be my mouth that sips:
I stoop and rise with each one.
But when they are done,
And their faces are touched with sprav,
They quickly wipe it away.
And this, sometimes, I regret—
Because their lips look prettier wet.

—By HELEN HOYT, Kenosha, Wis., in *The Playground*.

A Preachment on Water

From the Bulletin of the Chicago School of Sanitary Instruction, Conducted by the Department of Health, Chicago, Ill. (Issue of October 16, 1915)

“THE spirit of God moved upon the face of the water,” reads an ancient chronicle. Water was evidently primal stuff, vital in the evolution of the world from the beginning.

It still forms two-thirds of the earth's surface, seven-eighths of the animal body and nine-tenths of some plants.

Man at birth is about ninety per cent water. He never much outgrows this proportion, though at times by his apparent aversion to it he would seem afraid of over-saturation.

But there is little danger that he will drink too much water; the trouble often is that he does not take enough.

Most sedentary people drink too little of it and err in drinking too much at meal time. A glass with each meal, preferably at the end, will aid digestion. But to wash food down in chunks is a pernicious though common practice, exceedingly unfair to the stomach to say the least, and a bad use of good drinks.

A glass or two between meals, one at bedtime and another upon arising, is not too much water. Hot weather and exercise will make their own demands to vary the program.

Charged water is a poor substitute for the plain article and injurious to some people. The sudden drinking of large quantities of ice water not only checks digestion but may shock the heart, akin to a blow in the solar plexus.

Purity of man's water supply is hardly less important than that of the air he breathes.

To recognize typhoid, dysentery, diarrhea and cholera as the chief water-born diseases is to see the need of constant vigilance against this intestinal quartette. They come unbidden to his door; the first three of them come often, seeking to enter with water or food, contaminated by bowel, bladder or mouth discharges from some neighbor.

The repulsiveness of this, let alone the danger of it, would seem enough to make everyone of us alert to preach and practice to good effect.

While municipal authorities are expected to safeguard the community water supply, each individual must have an eye to protect his own drink from accidental secondary sources. When in doubt, boil it!

Those who journey out of Chicago into other cities, towns or to summer resorts are not as safe as at home. For them there is an added suggestion: Carry a couple of ounces of chloride of lime solution in strength of two teaspoonfuls to a quart of water. A teaspoonful of this stock solution added to two gallons of suspected drinking water will purify it. Agitate in a stone jar and let it stand covered with several thicknesses of cheesecloth. This will aerate the water, protect it from air contamination and remove the flat taste peculiar to water that has been boiled and not aerated.

Chicago's drainage canal achievement, her intercepting sewer to further stop lake contamination, and her measures to prevent the dumping of human and animal excreta into her water supply from passing ships, have had a vastly beneficial effect upon her health and life record. But a constant laboratory watchfulness of the crib intakes is still maintained of necessity.

Externally a cold dip or sponge is a valuable stimulant to circulation and respiration and promotes body activity and health, if so taken as to produce a warm glowing surface. Most people need to attain to the cold bath or shower by gradual usage; especially children and old people do not bear them well.

A cold plunge or sponge, with gooseflesh, blueness and shivering, is a good remedy wrongly applied.

A warm or hot bath properly taken is as useful as a sedative for tired muscles and weary nerves as is the cold one for stimulation. Neither of them agrees with a full stomach.

By all means learn to swim—there may be another *Eastland*.

Pass the water bottle, please. I hope the cook and waitress who handled that bit of ice had clean hands. Even an occasional typhoid “carrier” in the kitchen is a bad bargain.



THE TOWN HALL AT ARLINGTON, MASS.

Arlington's Civic Center

By W. B. Conant

THE town of Arlington, Mass., has an arrangement of public buildings that form what may properly be regarded as an attractive civic center. Town hall, public library and a large grammar school are grouped on a single plot of land in the heart of the town.

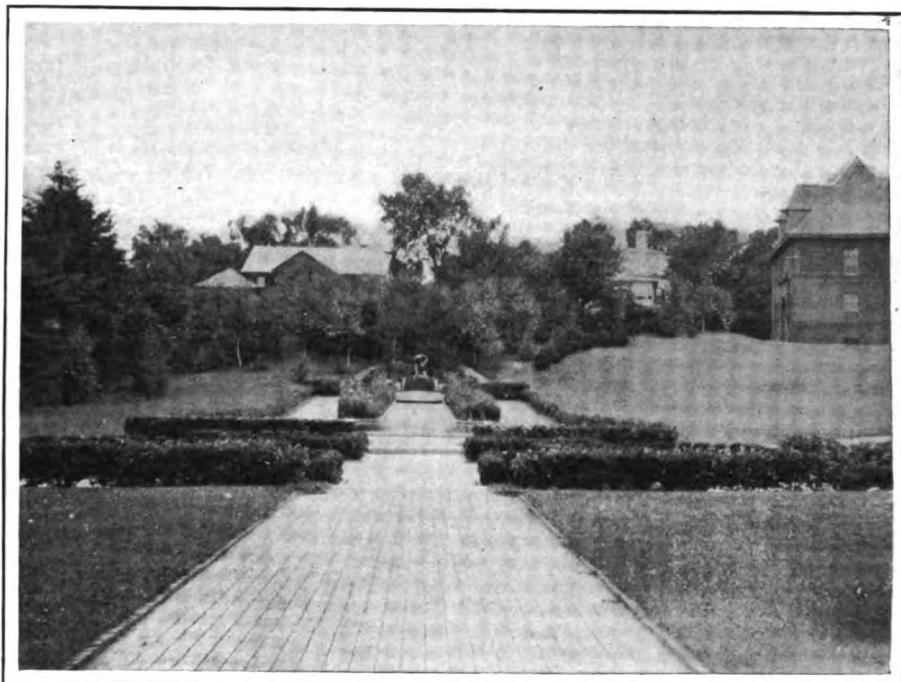
The town hall was recently erected at the cost of about \$150,000, donated by former residents. It contains the municipal offices and a public auditorium on the ground floor seating 1,200. There is a stage of 1,000 square feet. Egress from the building is through a lobby on



BASE OF THE ARLINGTON FLAGPOLE

either side and at the front of the hall, with outer doors equipped with Corbin pressure rods which automatically open the doors.

The public library stands about 600 feet southeast of the town hall, and between the two is a fountain and water basin, with walks bordered by Japanese privet hedges neatly trimmed. The fountain is the design of the artist Cyrus Dallin, a resident of the town. It represents in bronze an Indian bending to drink over a pool. The water bubbles from a concrete block about 6 x 6 x 4 feet, and falls into a basin, flow-



THE WELL-KEPT GROUNDS OF ARLINGTON'S CIVIC CENTER



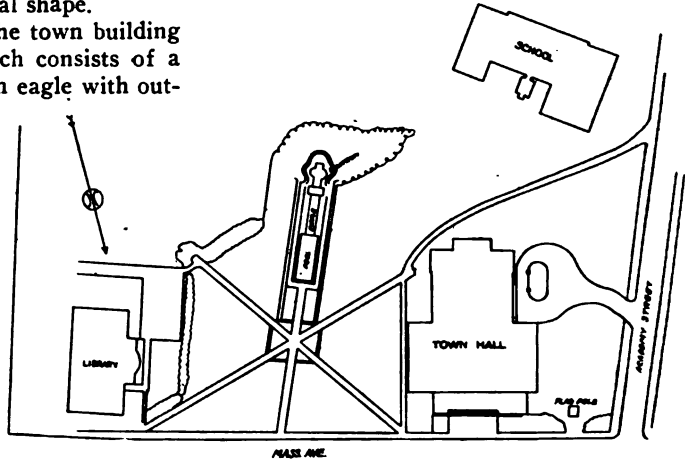
THE KNEELING-INDIAN FOUNTAIN,
With "ripple" of corrugated concrete

ing thence down a corrugated concrete incline 8 feet wide and 60 feet long to a pool 15 x 40 feet, with the run-off to the sewer. The corrugated channel gives the effect of depth and great agitation to the shallow water flowing down its surface, the edges being a little higher than the center, causing the ripples to assume a spiral shape.

At the opposite side of the town building is an artistic flagpole which consists of a carved granite base with an eagle with outspread wings at each corner. On the base is imposed a bronze pediment representing at the four corners a Colonial soldier, a clergyman, a teacher and an Indian squaw. The base bears the legends Liberty, Honor, Patriotism, Obedience. The pole is of southern heart pine and is surmounted by a figure of Liberty. This struc-

ture is also the work of Cyrus Dallin.

The lighting of the center is by means of large incandescent lamps installed in glass balls, in groups of 5 and 2 units, on iron posts. The trolley suspension wires along the street are attached to the same poles that carry the 2-lamp groups.



PLAN SHOWING RELATION OF THE ARLINGTON PUBLIC BUILDINGS

The Cleveland Ornamental Lighting System

By Ward Harrison
Illuminating Engineer

The ornamental street lighting system recently adopted by the city of Cleveland is of particular interest because of the exhaustive study which preceded its adoption, and on account of the fact that the unit selected represents something quite different from past practice in "White Way" lighting. The unit itself is an ornamental copper frame lantern mounted upon a specially designed post, the lighting being furnished by a Mazda lamp surrounded by a circular band of Holophane refracting glassware.

The selection of the incandescent unit was made after a series of careful tests which included various other types of up-to-date ornamental units, and after an investigation of practice in other cities. The use of the octagonal lantern as an enclosing unit for the incandescent lamp is a departure from present practice. In carrying out the design, the daylight, as well as the night, appearance of the unit has been given consideration. The engineering features of the lantern were developed by

the Engineering Department of the National Lamp Works; Mr. Betz, the City Architect of Cleveland, is responsible for the artistic merit of the lantern and standard.

The fixture is especially designed to provide an even illumination on the street and uniform lighting of the building fronts. The band of Holophane refracting glassware diverts into useful zones the light which would otherwise escape at angles where it would be wasted, or where the glare would cause discomfort to the pedestrian. It reduces, also, the relatively high intensity which ordinarily is found about the second story of adjacent buildings and which interferes with the effectiveness of electrical display signs at this height. The unit does not appear extremely brilliant unless one stands a short distance away from the post and looks upward. The light is so controlled that the maximum candle-power is directed toward the street at a point midway between the

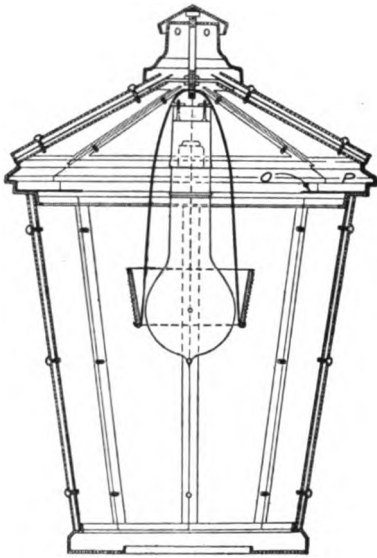


DIAGRAM OF THE CLEVELAND LIGHTING UNIT

standards. The high intensity in the upper hemisphere necessary for properly illuminating the fronts of adjacent buildings is obtained by affording the least possible obstruction to the transmission of the light rays through the top of the lantern. The lamps give a mellow, steady white light. An individual transformer is placed in a man-hole near each post. With the high voltage insulation between the primary and secondary coils of these individual transformers, the voltage in the post will never exceed 100. This eliminates all danger when the post is accidentally broken or overthrown. It is also practicable for the patrol man to renew lamps immediately upon burnout and thus keep all the units in service. A break in the circuit at any post does not affect the operation of the remainder of the system.

The average diameter of the lantern is 18 inches and the overall length 30 inches. The lamp is supported in a vertical tip-down position, with the lower part of the bulb surrounded by the refractor band. The outer glass is subdivided into eight small panels. This is advantageous from the standpoint of maintenance cost, and the appearance of the eight-sided fixture is more pleasing than that of similar units with fewer panels. This form permits the use of ribs less than $\frac{3}{4}$ inch wide, and by this means shadows are entirely eliminated. One of the panels is hinged in order that

ready access may be had to the interior of the lantern.

The consideration of keeping the units clean led to the investigation of pebbled or wavy glass for the sides in preference to the more common ground or frosted types. It was found that the introduction of more



THE NEW LIGHTING STANDARD IN CLEVELAND

than a very slight amount of opal into the glass would cut down the usefulness of the refractor and practically do away with the favorable distribution of light. It was therefore considered essential that the glass of the panels be of such type as to break up the light rather than diffuse it completely. The glass adopted has a slight opal content, although clear crystal glass is used for the top sections.

Several hundred of the standards to be installed in Cleveland will be equipped with 1,000 candle-power, 20-ampere Mazda C lamps, but for the sixty units surrounding the Public Square and for all the more important thoroughfares 1,500 candle-power lamps have been chosen. The lamps are supplied from a 6.6-ampere, constant current line, and, as mentioned above, each lamp is in turn operated from an individual transformer. The constant current ratio

characteristics of these transformers allow the installation of new lamps of slightly higher efficiency with no change of connections or other adjustments.

In the Cleveland trials it was found that the most efficient forms of arc and incandescent lamps which had the same operating cost showed approximately the same volume of light on photometric test when equipped with clear glassware. Setting aside this consideration of operating cost, the factors causing the decision in favor of the incandescent system were: desirable distribution of light, simplicity of operation, the expectation of improvements and reduction in cost in incandescent lamps, the practicability of using lamps of different sizes on the same circuit, the adaptability of the system to changes and improvements, and the pleasing and distinctive appearance of the unit.

The Care of Trees in Los Angeles

The City Club of Los Angeles, Cal., received, some months ago, a clear and definite report from its committee appointed to investigate the condition of the street trees of the city and to make recommendations for their improvement. This report is based on the realization that "streets are beautiful and cities attractive very largely in proportion to the attention given to the cultivation of trees," and cites "the marvelous results in other California cities, such as Pasadena and Riverside . . . all because of the tree planting and continuous care policy adopted by these cities but a few short years ago." It makes certain recommendations to atone for lost time.

The report makes this statement:

"The existing trees have been planted in a haphazard manner as regards variety, uniformity of appearance and suitable location. The maintenance of the trees has been neglected both in cultivation and pruning. In recent years various attempts have apparently been made by owners of subdivisions to plant and maintain uniform street trees, with fairly good results; but whenever the lots pass into the hands of individual owners the trees in many instances show the lack of proper attention."

The eleven miles of trees planted a year previous by the Park Department, principally on streets connecting with county roads leading into the city, were found to be

in excellent condition as a result of the continuous maintenance provided. This work had been performed by men temporarily out of employment, and cost \$1.25 per tree for planting, excavating and staking, and the maintenance has amounted to about 5 cents per tree per month, water not charged.

Los Angeles has an ordinance providing for the planting, protection and care, and the removal and change, of ornamental and shade trees on public streets, for their maintenance and for levying and collecting assessments to pay the cost. Under this plan an ordinary tree may be provided, planted and maintained for five years at an average cost of about \$4 per tree. Immediate procedure under this ordinance has been urged upon the City Council by a committee of the 1915 General Entertainment Committee, and is endorsed by the Street Tree Committee of the City Club.

To the Park Department of Los Angeles, which is well equipped for the work, both in its personnel and in the maintenance of a nursery, properly belongs the carrying out of the plan for rehabilitating the city's shade trees. The Park Commissioners exercise jurisdiction over numerous areas of park property situated at more or less regular intervals of space throughout the city. This makes possible a division of the city into



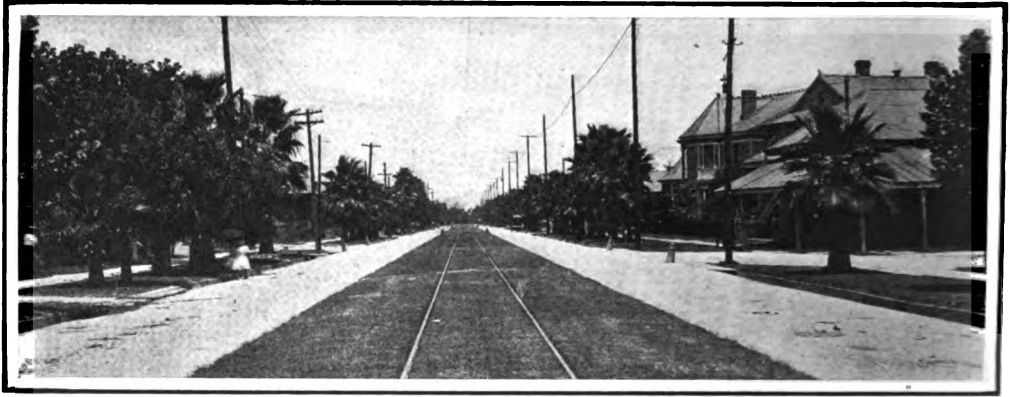
A LOS ANGELES STREET WITH NO TREES BUT TELEGRAPH POLES

districts, with a park as headquarters in each district. The plan proposed by the Park Commission and urged by the Street Tree Committee of the City Club, includes the immediate planting of the main city thoroughfares, as mentioned above, and the annual appropriation of \$20,000 to pay for the services of two men in each district to cultivate, prune and maintain existing trees, to plant young trees in unplanted

spaces and to remove undesirable specimens. As a means of securing revenue to supply this fund, the committee suggests the enforcement of an ordinance adopted in the spring of 1913, which provides that the city shall receive 10 cents for each and every wagon load of gravel taken out of the river bed. It is estimated that this source of income would provide the \$20,000 needed annually for the city's trees.



Types of City Streets and Pavements



URSULINE AVENUE, LOOKING WEST FROM BROAD STREET, NEW ORLEANS, LA.
Width between property lines, 106 feet 6 inches; neutral ground strip, 20 feet 6 inches wide, between 18-foot paved roadways; sidewalks 25 feet wide, including parking strips



SAN BENITO ROAD, IN ST. FRANCIS WOOD, A RESIDENCE SUBDIVISION IN
SAN FRANCISCO

Paved with a mixture of crushed rock and asphalt on a concrete base. Width between property lines, 55 feet; roadway, 24 feet wide; sidewalks, 6 feet wide, with 8-foot parking strips, planted with young trees, shrubs and flowering plants. Curbs reinforced with Wainwright curb bar, and cement sidewalk laid with a simple brick pattern



NORTH AVENUE, MILWAUKEE, WIS., IN THE SEMI-RESIDENTIAL DISTRICT
Fifty feet between curbs; paved with creosoted blocks



ONE OF THE BEAUTIFUL STREETS IN LOS ANGELES, CAL.
A 5-inch concrete base with a 1-inch binder course and a 2-inch asphalt wearing surface. Width between property lines 80 feet; width of roadway, 40 feet; sidewalk and parking strip each 5 feet wide

FACTORS IN THE SUCCESS OR FAILURE OF STREET PAVEMENTS

EDITOR'S NOTE.—*The following is the fourth of the series of articles under the above heading to be published in THE AMERICAN CITY, as announced in the July number. The three articles which have already appeared are:*

SHEET ASPHALT PAVEMENTS—Daniel T. Pierce, Executive Assistant, The Barber Asphalt Paving Company.

ASPHALT BLOCK PAVEMENTS—Edwin J. Morrison, President, The Hastings Pavement Company.

BITUMINOUS MACADAM PAVEMENTS—Philip P. Sharples, Barrett Manufacturing Company.

The remaining articles in the series will be:

CONCRETE—W. A. McIntyre, Chief Road Engineer, American Portland Cement Manufacturers Association.

GRANITE—Zenas W. Carter, Field Secretary, Granite Paving Block Manufacturers Association of the United States.

WOOD BLOCKS—H. S. Loud, Chief Engineer, United States Wood Preserving Company.

The articles will be published in alphabetical order, as listed above. As the manufacturers of the various types of pavement are vitally interested in the proper construction and maintenance of their products, and have necessarily made a very careful study of this subject, they are able to offer thoroughly practical advice regarding factors to be considered and mistakes to be avoided. It is not the intention of this series of articles to advocate the merits of any particular kind or brand of pavement. The assumption is in each case that a city has decided to lay a pavement of the type under discussion; the object of each article being to offer suggestions as to how the longest life may be obtained for such a pavement at the least possible expenditure to the municipality.

This series will be followed by one on various types of patented pavements.

Vitrified Brick Pavements

By Will P. Blair

Secretary, National Paving Brick Manufacturers Association

THE gradual increase from year to year in the use of vitrified brick as a wearing surface for streets and roads, reaching a maximum of about twenty-five million yards laid in 1914, establishes the successful use of vitrified brick for paving purposes. Clearly the factors of success embrace details of construction which most largely contribute toward making such a pavement one of greatest possible merit.

Failure must be accounted for by the very absence of details of construction necessary to its success. To the extent, therefore, that we are able to point out the elements of successful brick pavements on the one hand, and, on the other hand, are able to make clear the things that are to be avoided,

thereby directing the hand that both plans and constructs the brick pavements, will this contribution be of value to those who are called upon to pay for the pavements, and a comfort and satisfaction to those who use them.

The factors that contribute to the success of a brick pavement are so easily understood and so easy of execution that it would seem reasonable that there should be no failures or even partial failures at all. It is entirely proper to say that there is no *reason* for failures, though there are many; but for these there are *excuses* only.

The Foundation

A foundation that remains intact is the first prerequisite, which is equally neces-

sary to the success of all forms and types of road construction.

In order that this condition may be maintained, it may be necessary to lay a concrete base over the top of the soil. This may be necessary for several reasons. A very frequent reason is that of the difficulty of keeping the sub-base dry. A saturated or even moist condition of the

prerequisite to which altogether too little consideration is given. This is especially so in our northern climate, where the sub-base is subject to freezing and, in case of moisture, to great expansion.

At all events, a dry sub-base—whether it be so from natural condition or brought about by artificial means—is a necessity for uniform and sufficient support of the pave-



A SUCCESSFUL BRICK ROAD, 15 YEARS IN SERVICE

Buhrer Avenue, Cleveland, Ohio, built in 1900, with a sand foundation and cement filler

sub-base will not render a uniform support to the pavement. A concrete base is necessary where the grade of the pavement is elevated above the surrounding earth, so that the impact will be transmitted evenly to the entire width of the roadway. Unless a concrete base is thus provided, the natural soil is pressed unevenly from under the pavement. In every case, even where soil conditions are favorable to a natural drainage, artificial means should be used for taking moisture quickly and completely from underneath the roads to a point below the frost line. The maintaining by such means of a dry state underneath the road bed is a

ment and its loads, and is of even greater importance to prevent injury from climatic effects. It is also necessary that this base—whether of natural soil, gravel, broken stone or concrete—be made smooth and brought to a grade corresponding with that of the finished street.

A very common practice that greatly impairs the pavement is often permitted just at this point: after the sub-base has been properly prepared in every respect, it is destroyed by the contractor himself by hauling over it the material which he is to use subsequently in the further construction. The use of the road bed at this stage for

any purpose should not be permitted unless thoroughly protected by sheeting it with planks at least two inches thick.

If the design of the road provides for an artificial foundation of gravel, broken stone or concrete, it is highly important that the gravel or stone be uniformly and thoroughly compressed. In any case—gravel, broken stone or concrete—a smooth surface corresponding to the grade of the finished street is necessary; otherwise the monolithic brick-wearing surface must rest on an uneven support. What will happen to an unevenly supported surface from the shock, impact and weight of the traffic is apparent. As well expect that a forged steel shaft of highest quality will run on bearings out of line without crystallization as expect a road surface to remain unbroken when irregularly supported.

The Sand Cushion

The preparation of the sub-grade, which may include the artificial foundation, having been finished to a smooth grade corresponding with that of the finished street, the next step necessary is to supply a cushion of sand uniform in depth and density, of about $1\frac{1}{2}$ inches. It is necessary to compress this cushion thoroughly so that it shall form a uniform support to the wearing surface of the brick that are to be placed upon it.

A very common practice which tends towards failure is merely to strike off, by luting or with a template, this sand cushion to its proper depth and to let this suffice. A uniform density cannot be secured by such treatment. It is necessary to roll, fill the depressions, reroll and again repeat in order that the requisite uniformity shall be attained. This uniform density is not only necessary for the ultimate support of the pavement itself, but unless so compressed it will contribute greatly to the injury of the pavement in other steps of construction. Thus, after the brick are placed upon the cushion and the brick surface is to be ironed out by rolling, the spots in the sand cushion containing the larger quantity of sand will be relieved of such surplus by a flow of sand into the open joints of the brick surface; and this will make impossible a complete application of the cement filler to such joints, thereby resulting in very weak and insufficient joints.

The brick should always be laid better

edge uppermost in the first instance. There is but one better edge to a brick of any kind. One would hardly expect a face wall in an elegant building to be laid up without reference to the better edge. There is beauty as well as service in a well-built brick street. It is both economical and easy to place the brick in the street with the better edge up in the first instance. It is altogether too prevalent a practice to drop them in hit or miss, so to speak. To make amends for this practice, an equally baneful practice is resorted to—that of picking out the brick and turning them over, which needlessly disturbs the carefully prepared sand cushion.

Expansion Cushions

Expansion relief next to the curb is a benefit to the pavement. A transverse expansion cushion in a brick pavement is of no value whatever; yet a requirement for a transverse cushion is frequently found in present-day specifications, with no understanding of the fact that the longitudinal expansion of pavement is cared for, almost without exception, by compression, distribution or both. The ill-considered application of the expansion cushion before the application of the filler would be a surprise in some localities, but such a blundering practice was observed by the writer in the construction of a very important road but a few days since. The almost common use of the molded strip will perhaps eliminate this bad practice at a very early day.

Rolling the Surface

After the brick are dropped into the street with the best edge up, it is necessary to roll the brick surface in order to iron out the slight unevenness of surface due to variable sizes of the brick. This is best accomplished by the use of a tandem roller, weighing from $3\frac{1}{2}$ to 4 tons, first rolling longitudinally in courses from the outer edge of the pavement, approaching the center and crown, then crosswise at an angle of about 45 degrees, and again lengthwise, thus securing an even surface little by little. The use of a heavy or horse-drawn roller either causes the brick to rebound or careens them, so that the purpose intended fails of accomplishment.

The Cement Filler

The function of the cement filler rightly understood would perhaps tend to superinduce a greater care in its application. The

purpose of the cement filler is to unite the brick units into a monolithic wearing surface and to maintain it as such; to afford a slab upon which the impact, the unit of traffic, will be transmitted to the larger surface; to unite so closely the brick units that the wear will be confined to a surface wear, so to speak; to assist in maintaining a continuity of surface alignment; to avoid chipping the edges and corners of the brick by traffic uses; to make easy and inexpensive its cleaning; to assist greatly toward a sanitary condition well-nigh perfect—the purpose as a whole contributing to the satisfaction in use, as well as to the durability of the pavement. To attain the greatest success in this respect it is necessary to mix thoroughly the sand and cement in a dry state and in the proportion of one to one. In the application of water to this dry mixture it is necessary that it shall be done slowly, mixing to a mortar and then diluting to a consistency which will enable the mixture to flow readily into the joints, assisted by a broom. It is clearly necessary that this proportion be maintained in place. At this time of the application it is necessary for the brick to be both clean and thoroughly dampened to secure a thorough adhesion of the filler. During the setting the filler should be protected both from weather conditions affecting its quality and from destruction by its too early use.

Aid from the Association

These plain and simple requirements are so easily understood and detailed directions therefor so readily obtainable from the National Paving Brick Manufacturers Association that failure seems inexcusable—success with brick pavements is spelled better by disposition to comply than by any word having a meaning akin to skill in construction. Yet, an important road involving an expenditure of many thousands of dollars was inspected by the writer very recently where not a single one of the details mentioned here was complied with. Utter disregard of every essential was manifest. The road was a complete failure before a single vehicle had passed over—not even had the engineer been on the work.

The National Paving Brick Manufacturers Association has done its duty in co-operation with the American Society for Testing Materials in furnishing municipalities and the public a complete measurement of quality by which no bad brick can be imposed upon the purchaser. Why should there then ever be a brick street failure? Especially *why*, when success means so many years of satisfactory service, with no burden for maintenance?

A Fundamental Lack

What we have here said relates mainly to details, to that which directly affects the success or failure of the pavement. But may we not suggest a fundamental which influences failure in all municipal work, or rather the lack of a fundamental?

The public has long since been educated to guard scrupulously the cash box—the paying in and the paying out. The cashier is disgraced forever by the default of an inconsiderable sum of money; a crucial test of exactness and accuracy is demanded. No leniency or excuse is permitted; the loss of a dollar is a crime.

But how about value of the thing received in exchange for the money? Where is the public sentiment that demands accuracy and exactness of value? And where is the municipality that maintains a system—a scale to weigh, a rule to measure, the certificate, an oath—by which the defaulter becomes known when he slips over a hundred in value in place of the thousand called for in the bond? Rather, is it not true that the guardian of exchange is unknown of record and only seen—sometimes with back turned, or engaged with a ten o'clock lunch—as a stranger to the specification, a certificate of quality or accomplishments unknown, characterized by a name indicating the lowest paid officer of the city but charged with the worth of the largest expenditure? Who is there that is really required to know what he might know the moment immediately preceding the payment of the purchase price,—whether the street or road is to be a success or a failure—in order that a discrepancy or default, called a failure, may not result?



News and Ideas for Commercial and Civic Organizations

New Bulletins

ASHEVILLE, N. C.—*Merchants' Association Stimulator*. Published monthly by the Merchants' Association.

LAFAYETTE, IND.—*The Bulletin*. Published semi-monthly by the Lafayette Chamber of Commerce.

MARIETTA, OHIO.—*Marietta*. Published occasionally by the Marietta Chamber of Commerce.

SALEM, OHIO.—*Salem*. Published from time to time by the Salem Chamber of Commerce.

SHREVEPORT, LA.—*Chamber of Commerce Bulletin*. Published monthly by the Shreveport Chamber of Commerce.



A Milk Investigation

BOSTON, MASS.—The Committee on Agriculture of the Boston Chamber of Commerce has made an investigation of the milk industry in New England, the scope of which is suggested in the title of its report, "Investigation and Analysis of the Production, Transportation, Inspection and Distribution of Milk and Cream in New England." The study was made at the request of the New England Milk Producers' Association (an organization of about 2,000 New England farmers), in the hope that light would be thrown upon the fundamental causes for the apparent standstill in the production of milk in New England. It was conducted in coöperation with the agricultural agencies in the various New England states, the Federal Department of Agriculture assisting.

The report outlines the present conditions in each phase of the industry. An attempt is made to give the reader a mental picture of how milk and cream are produced, transported, processed, inspected, graded and distributed, including the principal costs and problems connected therewith.

In the chapter on "Suggestions and Rec-

ommendations," the authors show that a first-class product is the prime essential, and state the important factors contributing to that result. The enactment of uniform laws and regulations for grading and labeling the product is recommended, also laws giving boards of health power to issue licenses to dealers and to enforce the rules. A uniform system of buying is recommended, also the establishment of country milk stations, many of the existing evils being unavoidable in direct delivery to the car. The functions of the country milk and cream station are defined. There are suggestions in regard to the cost of plants, and for their financing and management. Improvements in farm economy and in the method of railroad transportation are suggested. Recommendations were also made for improvements in city distribution and for more coöperation among dealers. Some methods for reducing costs and for better cost accounting are given. The wide advertising of the food value of milk and its products is recommended as one means of increasing the demand.

Copies of the report may be obtained by anyone interested, upon application to James A. McKibben, Secretary, Boston Chamber of Commerce.



Grade Crossing Elimination Assured

ERIE, PA.—The Erie Board of Commerce has had the satisfaction of seeing its efforts toward grade crossing elimination rewarded.

Before the amalgamation of the Chamber of Commerce with the Board of Trade, those organizations had been active in arousing the interest of their members in the subject, but the first important work was done after the amalgamation a little over a year ago, when city officials entered into a tentative agreement with the manage-

ment of the New York Central Railroad. The Pennsylvania Railroad had still to be won over, and in order to bring together the officials of that road and the city officials, a dinner was held in the Board of Commerce rooms, at which the mayor was designated as spokesman. The question of grade crossing elimination was presented squarely to the railroad officials as a matter which would be insisted upon even though a portion of the expense had to be borne by the city of Erie. And incidentally, questions of train service which sorely needed attention were taken up.

As a result of that conference and dinner, the operating vice-president of the Pennsylvania Railroad went over the ground personally the next morning and left instructions that plans of the necessary changes be drawn up and executed as speedily as possible. This was followed by one conference after another between the city officials and railroad officials in an effort to come to an agreement in regard to the plans and terms. In these the Board of Commerce did not participate, feeling that it had done its part in bringing the matter to an issue.

An agreement for a general grade elimination was reached during October just passed, the matter having first been presented to the public at a Council meeting, to which the Board of Commerce sent a delegation for the purpose of supporting the proposed arrangement.

R. C. WELLER,
Managing Secretary, Erie Board of Commerce.



A Referendum for a New City Hall

UTICA, N. Y.—The voters of Utica decided on election day that their city should begin seriously to get ready for a new city hall. That in itself is nothing remarkable, but the way the result was brought about is decidedly interesting. The situation was handled by the Utica Chamber of Commerce.

Like many other cities, Utica had habitually failed to make proper provision for its growth. Enough land had not been purchased for the sites of municipal structures, thus frequently compelling the city, when it desired to increase any of its property holdings, to purchase lands having newly erected buildings.

The present city hall was built in the fifties. It is unsanitary, and, though carry-

ing all the records of the city, is a fire trap. For some years thoughtful citizens have realized the need of a new city hall. A special committee of the Utica Chamber of Commerce recently took up the question for study. It had for its assistance a report made by Olmsted Brothers, of Brookline, Mass., on a certain section of the city which was suggested as a civic center, giving sound reasons why it was available.

The committee further found that this civic center site included a city block on which was a million-dollar court house, the other half being filled by ordinary buildings and shacks. No one of them had any particular value; one new building of any consequence, however, would make the site unavailable. The committee secured options on the section, also, from disinterested and competent sources, an unofficial appraisal of its real value, and a reasonable estimate of the rentals that might be secured from the property. It found that even by allowing considerably more for the site than its appraised value, the city might take it and secure enough rent from the buildings to pay the interest on the bonds, thus being able to hold the property until an opportune time for constructing the new city hall.

The committee made a careful arrangement of the arguments for making the investment at the present time and of the arguments against it. These were sent as a referendum to the members of the Chamber of Commerce, about eleven hundred. When the vote was returned it was found that it totalled four to one in favor of purchasing the site. The committee then presented to the Common Council a copy of the referendum, with a statement of the vote of the Chamber of Commerce, and with the request that the Council secure an unofficial referendum of the voters of the city on election day. The Council agreed and the result on Nov. 2 was just a little short of two to one in favor of buying the site. On election day the committee placed hangers and cards at all the polling places, requesting all the voters to vote on the project, but without trying to influence their opinion in any way.

Every one in Utica seems satisfied at the present time with the vote, and none more so than the members of the Chamber committee who carried on the negotiations.

DENIS F. HOWE,
Secretary, Utica Chamber of Commerce.

For Organized Play

MADISON, WIS.—The Madison Board of Commerce completed in June last a survey of the city's existing and possible recreational facilities, the results of which are set forth in great detail in the report. The nature and scope of the survey were determined by a committee of men and women representing the city's leading civic, educational, religious, labor and social interests, who also gave their support and approval to the work of the executive committee.

The report is concluded with the following general recommendations:

"In order that this survey may become of immediate practical value and serve as a basis for permanent constructive effort, we recommend the appointment of a committee, to be called 'The Madison Central Play and Recreation Committee,' to serve until such time as the city government is authorized by statute to appoint a permanent committee or commission. We recommend that this committee shall be organized as follows:

"1. That it shall be appointed under the initiation and control of the Madison Board of Commerce, but with the cooperating approval of the city park, school, church and charity officials, to the end of securing the cooperation of all agencies with the community and establishing the tradition of fitness for service in the recreative life of the city.

"2. That it shall be composed of five members to act as a body on all questions of policy and procedure, and to act individually as representatives of the interests of the whole city in the promotion, organization and administration of the following groups of facilities:

"(a) Physical Culture and Outing Activities.—Including gymnastics, athletics, aquatics, tramping, etc., and facilities or organizations for such activities; the regulation of commercial sporting exhibits.

"(b) Social Center Activities.—Including community and club activities, entertainments, dances, discussions, etc., and places and organizations for such activities; the regulation of commercial social activities and loafing places.

"(c) Musical Activities.—Including public musical entertainments, musical clubs, etc., and commercial entertainments.

"(d) Dramatics, Pageants and Special Celebrations.—Including club dramatics, community or city pageants, celebrations or holidays, and the regulation of theatres, movies, etc.

"(e) Individual and Domestic (Home, Family) Recreation.—Including home gardening, handicrafts, music, reading, fine arts, games, amusements, social events, outings, family use of galleries, museums, libraries, etc."

Among the functions which it is recommended the play and recreation committee shall have are the following:

"To create associations and foster existing associations that extend the influence of various classes of recreational activities to large numbers of people. (For example, boys' and

girls' athletic leagues; business men's tramping clubs, art associations, etc.)

"To promote an organization for the use of facilities that will produce among the adults a democratic self-initiation and self-support in their recreation, independent of public support. (For example, club or association use of schoolhouses, etc.)

"To organize or promote the organization of groups which have no organization, adequate facilities or wholesome activities. (For example, newsboys or street boys.)

"To advertise and promote the use of the wholesome recreational facilities of the city and its environment so that all classes may know its recreational resources and be able to use them."

The report contains many graphic charts and photographs. Copies may be obtained for 50 cents each by writing to the Madison Board of Commerce.

E. M. McMAHON,
Secretary, Madison Board of Commerce.



Civic and Commercial Activities

SPENCER, MASS.—Since its recent organization as successor of the old Board of Trade, the Spencer Chamber of Commerce has demonstrated that a live commercial organization, even in a small town, may be made a real factor in community betterment. Some of the Chamber's activities are of a strictly commercial character, while others have to do with public health and civic development. Two examples may be cited.

The Chamber performed a valuable service to the town by preventing the establishment of a municipal piggery and swill disposal plant which a nearby city attempted to divert to Spencer. It was the intention to purchase several farms in outlying portions of the city for such use. The Chamber of Commerce circulated petitions opposing the project, and, after learning that the Board of Health could prevent its establishment, was instrumental in having an ordinance passed prohibiting such undertakings. The Chamber earned the gratitude of the townspeople for the service.

An arch has been erected across Main Street bearing the motto: "Spencer Salutes You. Speak Well of Us." This will be electrically illuminated each night free of charge by the Spencer Gas Company.

A contract also has been completed through the Chamber for the occupancy of a vacant factory by a brass manufacturing concern, where ultimately 100 persons will be given employment.

RALPH J. CORCORAN,
Secretary, Spencer Chamber of Commerce.

"Health Sunday"

HOT SPRINGS, ARK.—Sunday, October 3, was observed as "Health Sunday" in Hot Springs, Ark. Such a movement was felt to be needed even in this famous health resort, and was decided upon at a conference of physicians with representatives of the Ministerial Alliance and members of the Business Men's League. Physicians displaced the pastors in their pulpits at the evening service for that day and lectured upon health and sanitation, necessary precaution against disease, a cleaner, better, healthier city, and the beautification of lawns, back yards and alleys, carrying throughout the thought of a general uplift of civic affairs.

It is the intention to hold another "Health Sunday" in about six months.

GEORGE R. BELDING,
Secretary, Business Men's League.

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A Union of Forces

SOUTH BEND, IND.—An amalgamation was effected in South Bend recently between the Chamber of Commerce and the Commercial Athletic Club. The new organization is known as the Chamber of Commerce and Commercial Athletic Club, Consolidated. This is now the only com-



HOME OF SOUTH BEND'S CONSOLIDATED ORGANIZATION

mercial organization in the city. Its membership of 750 includes all the different civic and commercial interests of the community.

The building formerly occupied by the Commercial Athletic Club is the home of the new organization. There are club rooms and card rooms, directors' rooms, an assem-

bly hall, a gymnasium, bowling alleys—in fact, all the equipment necessary to further the social welfare of the members, as well as the civic and industrial interests of the city at large.

L. J. OARE,
Member, Board of Directors, Chamber of Commerce
and Commercial Athletic Club, Consolidated.

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City Directory Library

SYRACUSE, N. Y.—The Syracuse Chamber of Commerce has recently installed in its rooms a very complete and up-to-date city directory library of about 1,000 cities and towns in the United States and Canada. The library is open to the public and is referred to constantly. The members of the Chamber find the classified indexes of great value in compiling mailing lists and in enabling them to get in touch with new customers. Merchants, manufacturers, newspaper men, commercial travelers, representatives of the Police Department and of many other lines of work consult the library.

H. EDMUND BULLIS,
Assistant Secretary, Syracuse Chamber of Commerce.

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The Georgia Motion Picture Film

ATLANTA, GA.—The Georgia Chamber of Commerce has prepared a motion picture* film approximately 5,000 feet in length which is being used in Georgia and throughout the United States to arouse interest in the state of Georgia. It requires two hours to run the film.

There are presented views of public buildings in the state, including its educational institutions and other public enterprises; views of the state's mineral resources, and of its apple and peach orchards, watermelon fields, pecan groves, sugar cane fields, corn fields, and hog and cattle ranches; views of the state's water-power development, of its modern cities, of its timber wealth, the latter through views of pine forests, hardwood forests, manufacturing plants and shipping scenes; facts about the climate of the state, demonstrated by official figures of the Weather Bureau; views relating to the water-supply from springs, rivers and artesian wells, which insure the health of Georgia's people; views of many places of historic interest in the state; views of scenes in the mountains of

* See the Town and County edition of this issue.

North Georgia, on the sea coast, etc.; views showing road conditions in the state; also graphic pictures of the cotton industry, from its planting and chopping time through the various processes to the finished product of the Georgia mills.

The pictures have much life detail in them, showing actual work in progress. Two films were made, one to be run in all the motion picture houses of Georgia, to acquaint the people of the state with its resources and to arouse civic pride. The other film will be accompanied by a lecturer throughout the East and West. It is planned to show this not only to large audiences, but also at private exhibitions, and to select groups of financiers and business people, to impress them with the many opportunities Georgia offers to outside capital for investment. It will also be shown to groups of especially invited farmers, to secure, if possible, an increase in the agricultural population of the state.

ALBERT M. SMITH,
Secretary-Manager, Georgia Chamber of Commerce.

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1915 Year Book Ready

NEW YORK CITY.—The Merchants' Association has just issued its 1915 year book. It is illustrated with portraits and views of the headquarters in the Woolworth Building, and contains besides the usual list of officers, directors, standing committees, etc., the reports of the seven executive departments under the immediate direction of the secretary. These are the Bureau of Research, the Publicity Bureau, the Membership Bureau, the Traffic Bureau, the Industrial Bureau, the Convention Bureau and the Library. The reports are followed by a brief account of the Association's plan of

organization, illustrated by a diagram. Then follow alphabetical and classified lists of the Association's members, 3,300 in number.

The volume contains 240 pages. Copies may be obtained without charge by writing direct for them.

ROBERT H. FULLER,
Manager, Publicity Bureau, The Merchants'
Association of New York.

✦ ✦

Birmingham's Industries

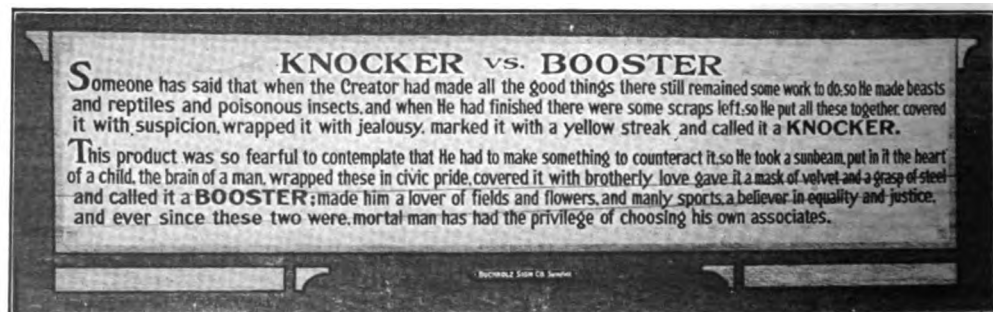
BIRMINGHAM, ALA.—The Industrial Bureau of the Birmingham Chamber of Commerce has recently issued a booklet containing an authentic, alphabetically arranged list of the products manufactured in the district, stating also by whom made, which

the Chamber hopes will open the door to new industries. In the preface to the booklet it is urged that Birmingham merchants and jobbers, as well as the citizens generally, use the articles manufactured in

those plants. It was a gratification to find that there was such a large range of diversified industries in that section, and that many of the articles seen in the store windows which it was thought were manufactured elsewhere and shipped into the district, were actually made in Birmingham.

On the front page of the booklet, ingenious use has been made of the "Made in U. S. A." trademark, as shown by upper half of the cover, here reproduced.

WM. C. RADCLIFFE,
General Secretary, Chamber of Commerce.



Courtesy of Henry J. Perkins Company.

SIGN PAINTED ACROSS THE ENTIRE SIDE OF A BIG MARKET BUILDING IN SPRINGFIELD, MASS.

Good Roads Activities of Commercial Organizations

Continuing the Work in Wayne County, Mich.

DETROIT, MICH.—For the last few weeks the Detroit Board of Commerce has been working with great diligence upon the problem of securing funds with which to continue the work of road-building in Wayne County. There was danger that the work of constructing roads outside the cities and villages in that county would be halted unless the Board of Supervisors could be induced to spread a half-mill levy on the tax rolls for the purpose of continuing it. The Board of Commerce, therefore, brought every possible influence to bear upon the Board of Supervisors to make them feel the urgency of such action. In a referendum on the question submitted by the Board of Commerce, the membership voted overwhelmingly in favor of the funds being raised in such manner. Letters were also received from prominent merchants indicating how greatly beneficial

to Detroiters were the fine roads in Wayne County—and such evidence is weighty, since Detroit citizens pay a large per cent of the county taxes. These letters, with the result of the vote referred to, were presented to the Supervisors for their enlightenment, and each alderman was visited by members of the Board of Commerce and the question discussed.



THE BEST ARGUMENT FOR GOOD ROADS

The Supervisors voted favorably upon the half-mill tax. This will provide \$300,000, sufficient to carry on the work during the coming year.

There is a law in force in Michigan at present, known as the Newell - Smith horse-power law, providing for the raising of road-building funds by the imposition of a 25-cent tax on the automobile owner for every horse-power his machine will develop at the standard rating, and a 25-cent tax per hundred-pound weight of the machine, the intention being to secure the money from



A GOOD ROAD MAKES THIS HILL AN EASY CLIMB

the heaviest users, as well as destroyers, of the roads. The law provides that half of this revenue is to go into the state highway fund and that the balance shall come back to the county to be used in its own road-building work. It was feared, however, that this plan would be attacked as unconstitutional, as was the case with a previous law of the same nature.

The good roads at present in Wayne County owe their existence to the activities of the Detroit Board of Commerce, a \$2,000,000 bond issue for building them having been secured in 1909 through the efforts of that body. This bond issue has now become exhausted, however, and although Wayne County has concrete roads that are famous, there are about 1,300 miles of roads outside the cities and villages yet to be improved.

GEORGE W. CUSHING,
Editor, *The Detroitian*.



A Farmer Boys' Contest

JANESVILLE, WIS.—The Janesville Commercial Club recently closed one branch of a campaign instituted a year ago to bring about closer coöperation between the business men of the city and the business men of the surrounding country, namely, the farmers. This was a good roads contest participated in by the farmer boys of Rock County. Eight townships were represented, 55 boys taking part in the contest. Each boy was assigned a strip of road to take care of with a split log drag, grader or other such equipment. The work included filling up holes and repairing washouts. Through arrangements made with the town boards, the boys were paid in cash for the actual time spent on the roads. A prize was offered to the boy in each town who had been most successful in caring for the strip assigned to him.

The idea of the contest was to interest the boys in the importance of good roads and educate them to the best methods being employed in road building and repairing. It was borne in mind that the boys of to-day will be the men of to-morrow, and that upon their shoulders will rest the responsibility of carrying on the county work already so well started.

The business men of Janesville further rewarded the contestants by giving them an automobile ride to Madison, the capital. While there they were entertained at dinner

at a hotel. After dinner the boys and their hosts, numbering nearly eighty persons, called upon Governor Philipp, who received them in his office in the Capitol and addressed them briefly. Later the party was conducted over the campus of the University of Wisconsin by Professor James of the agricultural school.

The plan has the hearty endorsement of the County Highway Commissioner and of a majority of the members of the Board of County Supervisors. It is probable that a similar plan will be carried out next year.

W. J. McDOWELL,
Secretary, Janesville Commercial Club.

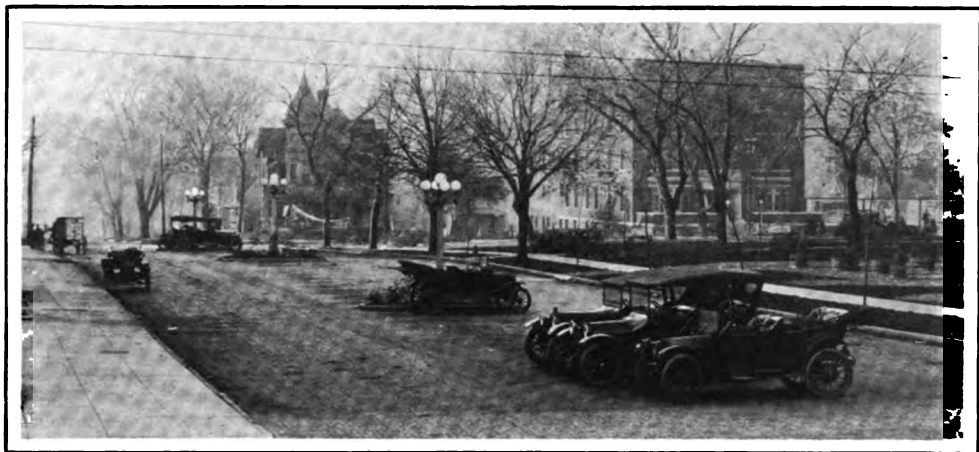


Washington County Votes for Good Roads

MARIETTA, OHIO.—The voters of Washington County (the county in which Marietta is located), voted in favor of the levy of a mill and a half for building county roads when the proposition was presented to them on November 2. The proceeds from the tax, in addition to the state funds available for that purpose, will furnish the county with about \$200,000 a year for five years. The road building for which this amount will be expended is in addition to the regular road work undertaken annually by the Commissioners.

The campaign was launched and managed by the Marietta Chamber of Commerce. A strong county organization was necessary, however, to push the campaign, and a newspaper man was selected by the Chamber as county manager. He appointed a county committee. They in turn selected township chairmen, and these latter organized their respective townships. A vigorous publicity campaign was then opened—financed largely by the Marietta Chamber—and a wide distribution given of literature, form and personal letters, etc. The farmer was convinced that it was a county campaign in his interests and not a city political movement.

It is noteworthy that the laboring men in Marietta, although they were not obliged to use the county roads and might be expected to oppose the plan, were sufficiently interested to vote in favor of taxing themselves in order that the roads might be built. This was due, without doubt, to the interest aroused by the 400 members of the Cham-



BOULEVARD WITH SAFETY ISLES, IN MARSHALLTOWN, IOWA

ber of Commerce, who employ approximately 75 per cent of the working people in the city. These members were asked to handle the campaign in their own places of business. The plan was apparently logical, for only a small percentage of the people in the city voted against the tax.

JAMES H. WARBURTON,
Secretary, Marietta Chamber of Commerce.

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Boulevards of Beauty and Utility

MARSHALLTOWN, IOWA.—The accompanying illustration shows how Marshalltown has solved the problem of caring for the constantly increasing number of automobiles entering the city, which had begun to be a serious one. The boulevard streets that surround the public square are 60 feet wide between curbs. The safety isles are oval, and are 8 by 15 feet.

The Marshalltown Club is responsible for the improvement. A committee from the Club secured an agreement between the Board of County Supervisors and the three city councilmen to construct such a boulevard. The cost of repaving the streets is met by the county, the city and the property owners, who pay their proportionate shares. The Marshalltown Club agreed to pay for the electroliers, which were installed three to the block, and the city assumed the lighting expense.

The boulevard forms the nucleus of a pleasing civic center. The public buildings already facing the square are the County Court House, the new \$100,000 Y. M. C. A.

building, the Government building, the Masonic Temple and the jail.

J. SIDNEY JOHNSON,
Secretary, Marshalltown Club.

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Why a Bond Issue Was Opposed

LOS ANGELES, CAL.—At a special election on October 26 the voters of Los Angeles defeated a proposed bond issue of \$2,850,000 for good roads. The defeat was due in part at least to the action of the Los Angeles Chamber of Commerce, which, while recognizing the importance of additional good roads for Los Angeles County, was not in favor of the methods by which it was proposed to spend the proceeds of the bonds. Among the objections pointed out by the Los Angeles Chamber of Commerce in the circular issued to its members were the following:

"We opposed the bond issue, believing that the County District Assessment Plan, whereby the county furnishes rock and oil (at a cost of about \$3,800 per mile) and the benefited property stands the balance of the expense (which amounts to about \$5,700 per mile), proportionately divided about 40 per cent and 60 per cent, respectively, is more equitable and just; the county already having built under the Assessment District Plan about 200 miles of road at an expense of \$749,150, the interested property owners paying \$1,160,096, thus making a saving to the county of \$1,160,096.

"Another serious objection to the proposed bond issue is the fact that no official estimate of cost has been made—there never having been an official survey of many of the proposed roads—nor has assurance been given that bonds are sufficient to complete roads, and under the circumstances we thought

businesslike proposition to place before the people.

"Some of the roads proposed do not connect with any other paved roads, and others are lateral, or connecting, roads only; the building of which, while of great importance to the property through which they run, are not of equal benefit to all portions of the county, and therefore should be built by direct assessments."

FRANK WIGGINS,
Secretary, Los Angeles Chamber of Commerce.

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Preparing for the Dixie Highway

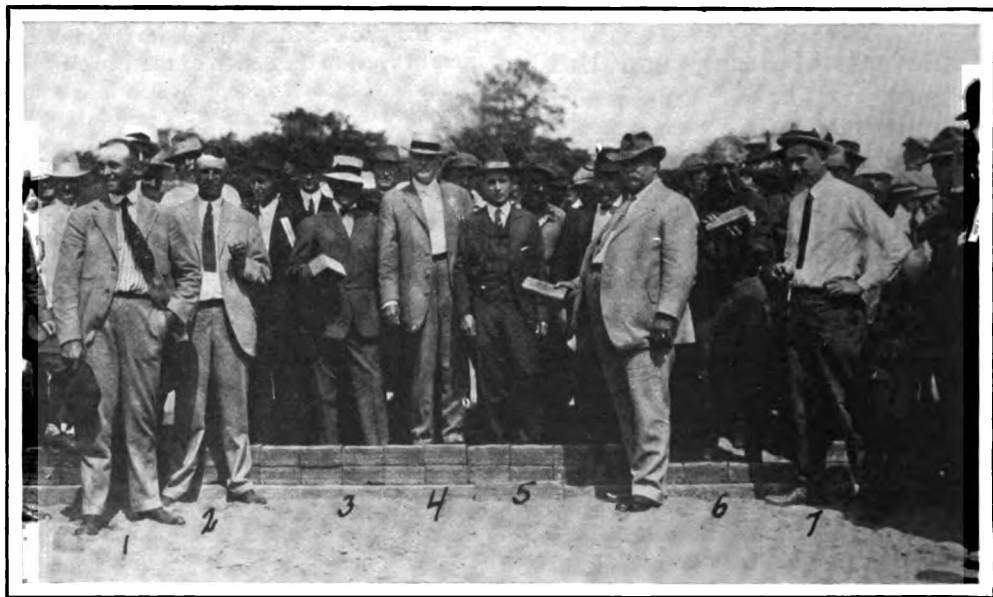
MARTINSVILLE, IND.—Martinsville citizens desired to have Dixie Highway routed through their city. The city's natural resources are mineral water, clay and shale. By reason of the former there are eight sanitariums in Martinsville which are visited each year by large numbers of people from all over the country, and the presence of the last-named minerals accounts for the two large paving brick plants just outside the city. These are the Martinsville Brick Company and the Adams Clay Products Company. It was thus seen to be "good business" to work for the routing of Dixie

Highway through the city, aside from the growing spirit of town patriotism which strengthened the desire. A battle was waged, coöperatively with some of the neighboring cities, with a favorable result.

As an appreciation, a movement was immediately undertaken to pave with brick a stretch of roadway two and a half miles long connecting with the paved streets at the city limits. This being the beginning of the permanent roadway, a celebration, including a street pageant, was conducted by the Martinsville Chamber of Commerce, with Governor Ralston as the chief participant.

A brick monument was built on the scene of activities, each brick bearing a name, the owners paying 25 cents for the brick. Bricks were prepared for Governor Ralston and for the various members of the Dixie Highway Association and others who participated in the festivities. Each laid a brick in the monument, also in the pavement, the Governor laying the first brick in the pavement.

JOHN E. NORTHWAY,
Secretary-Manager, Chamber of Commerce.



AFTER THE DIXIE HIGHWAY CEREMONIES IN MARTINSVILLE

Governor Ralston is standing at the right of the center. The seven most prominent participants are as follows: 1 and 2—Cunningham Brothers, who are building the road; 3—Carl Fisher, "Father of Dixie Highway"; 4—J. C. McNutt, Vice-President, Dixie Highway Association; 5—John E. Northway, Secretary, Martinsville Chamber of Commerce; 6—W. S. Gilbreath, Field Secretary, Dixie Highway Association; 7—E. I. Poston, Manager, Martinsville Brick Co.



MERCHANTS' COÖPERATIVE DELIVERY WAGONS IN ARKANSAS CITY, KANS.

Coöperative Delivery Systems

A Factor in Reducing the High Cost of Living

Raymond B. Gibbs

Secretary, Chamber of Commerce, Olean, N. Y.

EFFICIENCY, service, economy. These are words we hear in connection with business every day. Civic-commercial organizations are especially interested in all movements which tend towards greater efficiency, better service and strict economy. Investigation shows that the establishment of merchants' coöperative delivery systems covers all three points.

Advantages of the System

Efficiency is brought about by freeing the merchant from the necessity of being a stable-master or a superintendent of drivers, horses, wagons, etc. The merchant, thus being relieved from the worry and care of delivery, can give his undivided attention to the buying and selling of the goods in which he is dealing. Through the coöperative plan the work of delivering is turned over to a man who devotes all his time to it and therefore becomes skilled in doing that particular thing.

On the side of service we find a well-systematized business with definite hours for delivery. The merchant, freed from the arduous duties of continually looking after deliveries, systematizes his work, gives more attention to buying and renders better and more prompt service to his customers. The customers, also, soon learn to get their orders in by a certain time, knowing that when this is done delivery will be made promptly. They appreciate the merchants' delivery service, which becomes as certain and regular as the mail deliveries and

eliminates the necessity of expletives to impress the merchant with the need of making delivery at once.

When we come to the economical side of the question, we are astonished to find that the coöperative system, wherever established, has brought about a reduction in the cost of delivery of from 20 to 50 per cent of the former cost. This is not surprising, however, when one stops to think that every delivery wagon in the city under the old system takes in practically every section of the city several times during the day, while under the coöperative plan it is only necessary for one wagon to cover the territory. The drivers and horses, always making the same route, become thoroughly familiar with it and are able to make deliveries rapidly and to the entire satisfaction of the consumer. At first it may be thought that the saving will go to the merchants only, but in these days of close margins the saving will eventually come to the consumer.

A well-established coöperative delivery system is also an important factor in creating a better spirit of coöperation among the merchants and a higher degree of civic patriotism among the citizens of the community.

Organization and Operation

The coöperative delivery systems now in use may be divided into two classes: first, those systems where the manager takes over the delivery business, promising a re-

duction in delivery service to the merchants; second, systems where the merchants form a stock company and hire a general manager to conduct the business.

Briefly, either system is organized and operated as follows:

The merchants turn into the new company, at a fair price, such part of their equipment as can be used. A central station is built where the goods are brought and distributed. Near the central station is another building for stabling horses and other equipment. The wagons start out the

as soon as the customers become familiar with the system, they are well satisfied with it. They know exactly when deliveries will be made and they know they must get their orders in on time so as to receive them on the next delivery.

Investigation shows that the merchants themselves are delighted with the system. Many merchants who have operated under the old and the new delivery plan say that rather than go back to the old system they would go out of business. The responsibility and worry of the delivery are off their minds.

In a number of instances coöperative delivery systems are conducted without a central station, the transfer being made from one wagon to another on the street, or each wagon picking up orders for its district from the different stores. Where this plan is followed a big reduction in the cost of delivery has resulted, and in order to start the system there is need only of a manager and the coöperation of the merchants.

A few of the details of the working of the system are explained as follows:

None of the drivers are allowed to solicit orders. A person may hand an order to the driver addressed to the firm that it is desired to have furnish the goods. C. O. D.'s are taken care of by the drivers, who check them with the manager, and settlement is made with each merchant at the close of the day. Orders which come in just after the delivery wagon has left must wait until the next delivery. A special wagon is often kept to take care of large articles, when it is advisable to make delivery direct from store to customer.

Where the System is Working

There are scores of cities in the United States which are doing their delivering under some form of the coöperative plan. Below is given a brief account of some of the delivery systems now in use in cities in various sections of the country:*

ANN ARBOR, MICH.—Population, 14,817.† Company is composed of 26 stockholders, all merchants, and was capitalized for \$10,000.

* Other cities in which coöperative delivery systems are in operation are as follows:

Angola, Ind.; Ames, Iowa; Emporia, Eureka, Olathe, Salina and Wellington, Kans.; Adrian, Albion, Battle Creek, Coldwater and Pontiac, Mich.; Columbia and Independence, Mo.; Grand Island, Neb.; Albion, Batavia, Brockport, Fairport, Holley, Leroy, Newark, Perry and Warsaw, N. Y.; Bellevue, Findlay, Fremont, Mansfield, Massillon and Tiffin, Ohio; Blackwell, Okla.; and Laramie, Wyo.

† U. S. Census figures used throughout article.

Pkgs.	
4	MERCHANTS DELIVERY CO. PONTIAC, MICH.
Route	

TAG SOLD TO MERCHANTS BY MERCHANTS' DELIVERY COMPANY OF PONTIAC, MICH., FOR ORDINARY DELIVERIES
Original measures $4\frac{1}{4} \times 2\frac{3}{4}$ inches

Dealer's Name	Pontiac Merchants Delivery Co. Pontiac, Mich.
5$\frac{1}{2}$	C. O. D. \$
Packages	
Name	
Address	
Route	Date

ENVELOPE SOLD TO PONTIAC MERCHANTS FOR C. O. D. DELIVERIES
Original measures $5\frac{1}{4} \times 2\frac{3}{4}$ inches

first thing in the morning and collect from the different stores. All the wagons then come to the central station, where the packages are distributed to the booths representing certain routes. The wagons next leave at a certain time, cover the routes and return again to collect from the stores. Four trips a day are usually made, and an extra one on Saturday evening.

In order that the system may work properly from the start, considerable educational work is necessary. The housewives are educated through the daily papers and through the distribution of leaflets in regard to the operation of the system, and are urged to get their orders in on time. Just

The wagons collect from the stores, bring the goods to the central station and unload, and the orders are routed, each wagon taking everything in its territory. After the delivery is made, the wagons return to the stores for the next pick-up. The stockholders are paying $2\frac{3}{4}$ cents for meats and $3\frac{3}{4}$ cents for groceries per delivery. Non-stockholders pay $\frac{3}{4}$ cent more for the same class of goods. The shoe stores, dry-goods stores, drug stores, clothing stores, etc., are charged 5 cents per delivery. Packages are transferred through regular delivery from one residence to another for 10 cents each. The cost of delivery to the merchants previous to installation of the system was 6 cents to 8 cents per delivery.

ARKANSAS CITY, KANS.—Population, 7,508. Privately owned system. Milburn double-deck delivery wagon is used here, as it is in seventeen of nineteen Kansas towns which operate systems of this kind.

EXCELSIOR SPRINGS, MO.—Population, 3,900. System privately owned. Saving to merchants of from 10 per cent to 20 per cent. Excelsior Springs is a health resort, and naturally many of the residents are hard to please, but all but the ultra-particular are well satisfied with the system.

GOUVERNEUR, N. Y.—Population, 4,128. Organized in 1913. Organization is purely a mutual one and not incorporated. The town is divided into four districts. The stores mark the name of the customer and the district on each package. No central station is used, each wagon serving all the stores and taking the goods for its own district only. Cost of delivery per package slightly under 2 cents; former cost, 6 cents. Customers are pleased with system and would not consider returning to the old method.

INDEPENDENCE, KANS.—Population, 10,480. System privately owned, established two years ago by individuals who took in all equipment at its worth at the time. Delivery cost reduced from 15 cents per order to 10 cents per order. System satisfactory to both merchants and customers.

MARSHALLTOWN, IOWA.—Population, 13,374. Coöperative delivery system is incorporated for \$100,000 and operates systems in Oskaloosa and Marshalltown, Iowa, and Greeley and Loveland, Colo. System established at Marshalltown early in 1914, a reduction in cost of delivering being guaranteed to the merchants. The cost per package is on the average $2\frac{1}{2}$ to 3 cents. The system is operated from a central collecting and distributing station and is satisfactory to both merchants and customers.

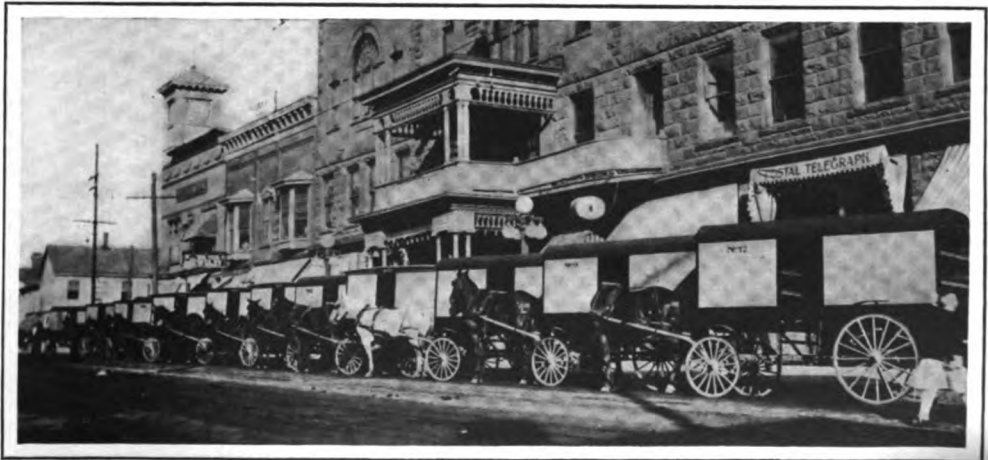
NORWALK, OHIO.—Population, 7,858. Merchants' Delivery Company owned by grocers. Cost of delivering from 2 cents to $3\frac{1}{4}$ cents per package. Central station used. Ten wagons required where twenty were used by the merchants under the old system.

OSAGE, KANS.—Population, 2,432. System has been established for six years. Cost of delivery about one-third of cost under old method. Merchants also run cash system and like it better than old credit system. The delivery boy gets the cash and settles his account every night.

POTSDAM, N. Y.—Population, 4,036. System privately owned, each merchant paying a flat rate of \$9 to \$16 per week. The merchants report that it is one of the finest things they have ever done to lessen the expense, work and worry of the retail merchant who has to deliver. The merchants under the old system were using twelve wagons, twelve men and twenty horses, while now the work is being done better with four teams, four men and four boys.

STOCKTON, CAL.—Population, 23,253. System organized two years ago has resulted in a saving of 25 per cent to the merchants. Company is capitalized at \$25,000. Each merchant put in his delivery outfit at a fair price.

YPSILANTI, MICH.—Population, 6,230. About twelve years ago two merchants of Ypsilanti who were running five wagons decided to deliver their goods together. Three wagons were used, and in about a year three other merchants decided they wanted to deliver their goods in the same way, so a stock company was organ-



TYPE OF DELIVERY WAGONS IN USE IN WESTERN NEW YORK

ized with stock at \$125 per share. The firms taking stock turned in all their usable horses, wagons, harness, etc. In five years' time all the butchers and grocers of any importance fell into line. The delivering is done with seven wagons and seventeen horses, with one wagon in reserve in case of accident. The horses are in good condition, as they are not raced all over town. Up-to-date wagons are used, costing from \$200 to \$250 and made specially for the business, with a drop center, where the driver stands and loads and unloads his goods from back to front. The company owns its own barn, which was paid for by an assessment of \$1 a week upon each member. Expenses are never less than 2 cents per order and never over 2½ cents. Non-stockholders are charged 20 per cent additional. The equipment recently inventoried at \$4,500, making the stock for the ten original shares

issued by the company now worth \$450.

The wagons leave the last store at 6.30, 8 and 10 A. M., and 2 and 4 P. M. About four months in the winter the 6.30 trip is omitted. Customers and merchants are pleased with the system. The wagons leave the stores as regularly as a train of cars leaves a station. The customers look for the wagons at regular hours and make their plans accordingly. The C. O. D. system works finely. Every C. O. D. is put in an envelope with the name and address of customer, and instructions are given the driver to bring back the goods or the money. Cash is turned in to each store within twenty-four hours from the time the goods left the store.

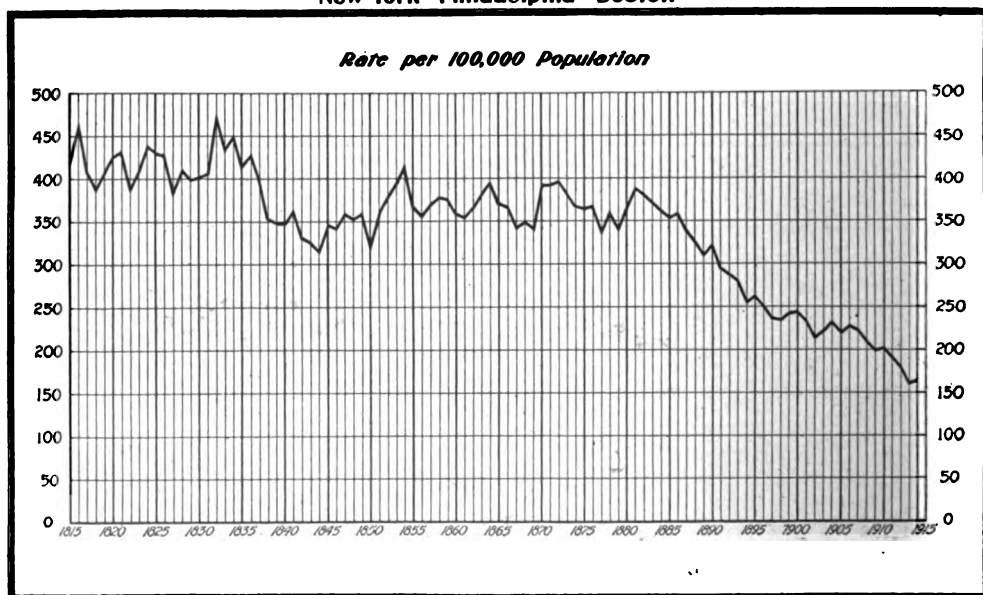
THE ORLEANS DISTRIBUTORS, INC.—The Orleans Distributors, Inc., operate systems in Geneva, Canandaigua, Albion, Medina, Hornell, Penn Yan and Newark, N. Y.

The Declining Tuberculosis Death Rate

The striking chart shown on this page is one of a series of 21 prepared by The Prudential Insurance Company for the National Association for the Study and Prevention of Tuberculosis. The Department of Health of Newark, N. J., calls attention to this chart as an effective answer to those critics of present-day preventive measures in the anti-tuberculosis campaign who claim that the money spent has yielded small results. It is shown that in the combined experience of New York, Philadelphia and Boston the

tuberculosis death rate has declined almost continuously since the discovery by Koch in 1882 of the tubercle bacillus. The death rate in these three cities, combined, has been more than cut in half since that date, or, to be exact, it has declined from 380.6 per 100,000 of population in 1882 to 164.6 in 1914. The 1914 death rate was therefore only 43.2 per cent of that of 1882, or, to put it the other way, the death rate of 1882 had, by 1914, fallen 56.8 per cent.

Mortality from Tuberculosis of Lungs, 1815—1914 New York—Philadelphia—Boston



Raising the Standard of Motion Pictures

A SURVEY of the motion picture situation in Berkeley, Cal., has recently been conducted by the Motion Picture Survey Committee of the City Club of Berkeley. To aid the committee in arriving at the facts, the children of the sixth, seventh and eighth grades in three public schools in Berkeley were asked to write essays upon the subject, "What I Like Best in Moving Pictures." The report of the committee is based upon visits of its members to the eight motion picture theaters of the city and upon the children's essays.

The report, for which great credit should be given to Prof. T. H. Reed, of the Department of Political Science, University of California, contains four tables in which the actual findings of the survey committee are tabulated. Table I analyzes the artistic and moral value of ten programs in which 35 films were displayed, and shows a distinction between the moral value of the plays for adults and the moral value for children. Table II analyzes the kinds of pictures which are most enjoyed by the Berkeley children, and indicates the preference of the children to be six to one in favor of the adventurous, blood-letting kind of drama rather than for the educational kind, and a preference of three to one for comedy against the educational. Table III gives a list of the favorite films of the Berkeley children in the three schools referred to, and Table IV gives a list of the four favorite motion picture players and states the preferences by the same boys and girls.

It is made clear from the tables that the *kind* of pictures exhibited cannot be greatly changed without endangering the actual usefulness of the motion picture theaters, and that attention must therefore be directed to improving the *quality* of the pictures, especially those of adventure and comedy, and to securing as large a proportion of educational films in each program as possible.

The recommendations of the survey committee and the conclusions reached are given in full:

RECOMMENDATIONS

The committee is of the opinion that it would be undesirable at the present time to establish an official censorship of picture films in Berkeley. Censorship is a method which should only be resorted to when every other method has failed. It is, under ordinary cir-

cumstances, unwise to entrust to a few individuals the right to determine what the taste of the community should be.

The committee feels that there are three important constructive steps which may be undertaken in Berkeley.

1. *An effort to crystallize public sentiment in Berkeley upon the motion picture situation.* To this end the report of this committee was presented before a largely attended meeting of the City Club, and is now printed in this Bulletin for general circulation. It is earnestly recommended that the various organizations of our city which are interested in civic betterment, take under consideration this problem, and endeavor to create a high standard of judgment with regard to the quality of motion pictures to be exhibited in our city.

2. *Friendly cooperation with the picture theater proprietors to secure the elimination of the worst films.* The committee believes that the time is ripe for the City Club, the Civic League, Mothers' Clubs and other organizations to urge upon motion theater proprietors the elimination of the worst of the films now exhibited in this city. This should be done in a friendly spirit of cooperation. Motion theater proprietors are anxious to give the public what the public wants in so far as the films available to them will warrant. They will welcome suggestions through representative individuals or committees concerning the sentiment of large bodies of people of the community. It is important for us to realize that the motion picture proprietors are not entirely their own masters in the selection of films. They must offer some kind of a program every day, and the list of films upon which they may depend is limited. It is only the T & D and other very large concerns which have anything like a free choice among the films at the exchanges, and of course even these are limited to films produced.

3. *Special Programs for Children.* The committee recommends that wherever possible, arrangements should be made with the proprietors of theaters to give on Saturday afternoons, or some other time when children are particularly likely to be in attendance in large numbers, programs suited to children. This does not mean, as we have already pointed out, necessarily a juvenile program. It simply means a program from which those films detrimental to the taste or morals of children are removed.

CONCLUSION

There is no more attractive form of amusement in the community than motion pictures. The popular prices at which they are offered to the public means their employment by every one. It is this universality of appeal which creates the motion picture problem for children. No other similar influence has had a tithe of the power over them exerted by the "photo" play. Children never attended the legitimate theater in large numbers. Only a few children ever read extensively. Practically all children go to the picture shows. For

one boy who reads a dime novel fifty attend the "movies." The picture shows may open to them a new world of interest and beauty. It may acquaint them with the great events which have thrilled mankind. On the other hand, it may debase and degrade them in manners and morals. The subject of the motion picture is, therefore, one which every citizen, especially every parent, should approach with the most serious purpose. We must not permit ourselves to be carried away by idle prejudices or by finical appreciation of moral values. Many grave mistakes have been made by would-be censors who have permitted their opinions to be warped by an over-sharp nose for the prurient and have forbidden the pro-

duction of plays of great moral worth. On the other hand, we must be firm and steadfast in our purpose to have for our children the best that is attainable in motion pictures. This does not mean that we are likely to secure perfection. We are, however, in line to bring about great improvements.

The committee has not yet been disbanded, but is preparing to conduct another campaign of investigation and suggestion, and, by holding conferences with the managers of motion picture theatres, to do, indirectly and with as little publicity as possible, what many cities are expecting to do through censors in raising the standard of motion pictures shown in the city theatres.

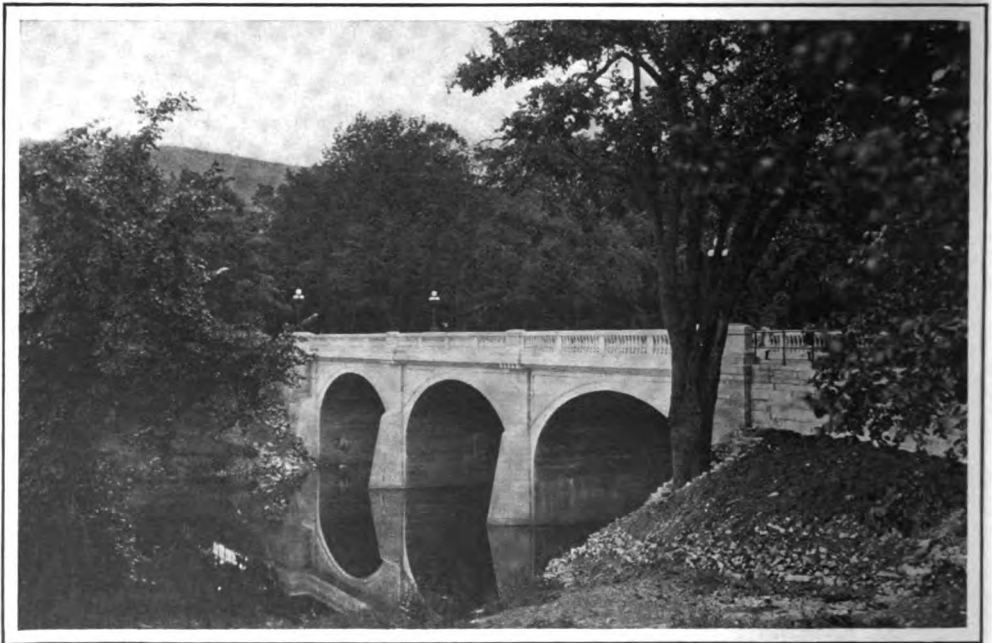
A Gift of a Bridge

By W. B. Conant

A ROAD bridge of handsome architectural design was completed last spring at Proctor, Vt., at a cost of over \$25,000. The facing of the arches and the balustrades are of Vermont marble, the core arch being of concrete 18 inches thick. The bridge consists of three Norman arches and is 140 feet in length. Mrs. Redfield Proctor, widow of the late senator from Vermont, was the donor.

The first bridge on the site was built in 1794. This was of wood, and was carried away by a flood in 1811. A second wooden structure was erected and was carried away in 1839. In 1841 a covered bridge was built, which remained until 1914.

The present structure has a sidewalk on either side of the roadway, and is lighted by clusters of incandescent electric lamps on metal standards, at either end.



CONCRETE-AND-MARBLE ROAD BRIDGE AT PROCTOR, VT.

Preparing for Newark's Two-Hundred-and-Fiftieth Birthday

By John Cotton Dana

Librarian, Free Public Library, Newark, N. J.

IN commemoration of Newark's two hundred and fiftieth birthday, a celebration of the anniversary has been arranged for next year, to continue from May to October. There is every indication that it will be an elaborate festival and an enjoyable merrymaking time. The primary object in observing the anniversary of the



THE FIRST-PRIZE POSTER

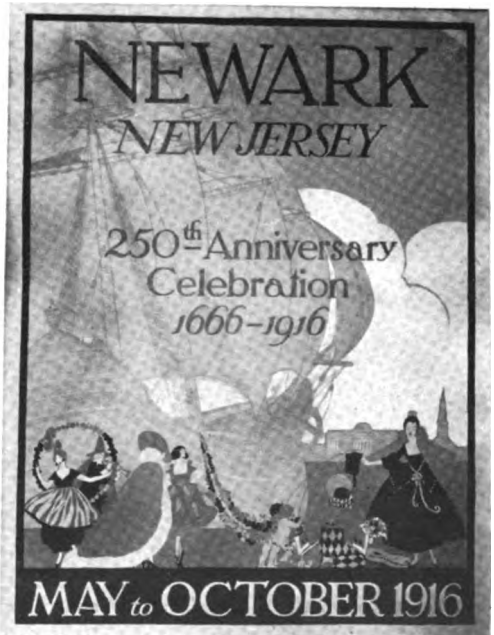
founding of Newark, however, is to call attention to the progress which the city has made in the last half-century. At the beginning of this period, Newark began to withdraw from under the shadow of her great neighbor, New York City, to establish independent resources and to extend her activities, thus becoming a strongly individualized unit among municipalities.

A fund of \$250,000 has been raised in Newark with which to finance the anniversary celebration, and a committee of one hundred citizens is at work executing the plans.

The Poster Contest

Posters to arrest the attention and interest people in the celebration were obtained by means of a contest recently closed. The winners were selected from 230 entries. Many of the drawings submitted were very well done, and the judges found the task of rendering the decision a difficult one.

The first prize of \$1,000 was awarded to Adolph Treidler, of New York, whose design won instant approval. In this the tall, commanding figure of Robert Treat is shown with left arm outstretched, directing the landing of the founders of Newark. He seems also to be pointing to some nearby object, and after another glance the observer sees the large lettering, "250th An-



THE SECOND-PRIZE POSTER

niversary Celebration of Newark, N. J., May to October, 1916."

The second prize of \$500 was won by Miss Helen Dryden, also of New York.

Miss Dryden's poster is a fantastic drawing combining the historic feature with the spirit of pageantry. The ship represents the beginning of Newark, and the figures in the foreground typify the carnival aspects of the celebration.

The third prize of \$300, awarded by the votes of those who attended the Poster Show at the Newark Free Public Library, was won by A. E. Foringer, of Grantwood, N. J. In Mr. Foringer's poster Newark is represented as a beautiful woman poised on the wheel of progress.

The 230 designs submitted were the work of 163 artists, and the collection is a very creditable expression of the poster art in America. The posters were on exhibition at the Newark Free Public Library from October 13 to 31, and were viewed during that time by over 9,000 visitors from New York and elsewhere. Sixty-four of the best designs were exhibited at the Anderson Galleries in New York from November 8 to 13. From there they were sent to Philadelphia, Boston, Trenton and New Brunswick, and later will be exhibited in other cities in the United States.

The winning posters are to be reproduced in the artists' colors as an eight-sheet poster, as a hanger, and as a poster-stamp, to be used in advertising the celebration, which opens on May 1 with a music festival.

The Memorial Building

It was felt that the city should erect an enduring monument of the celebration, and a memorial building capable of meeting many public needs was decided upon. Such a building will cost \$1,500,000, and in a referendum on the subject presented to the people in November the voters decided in favor of raising the needed sum by the sale of bonds, the total amount to be provided by successive appropriations of \$500,000 per year for three years or more.

At present Newark possesses no commodious auditorium in which may be held large conventions, music festivals, fairs or other civic gatherings. A building suitable for such occasions had been in the minds of Newark citizens for some time, and the men who have been thinking out the designs for the memorial structure have incorporated in the general idea some of the most attractive features ever thought of for such an enterprise. The Committee of One Hundred will proceed, therefore, on broad lines.

None of the details of the precise plan and scope of the building have been determined absolutely by that body, but the following tentative and unofficial scheme was worked out several months ago, and is, in fact, a composite gleaned from the ideas and opinions of several public-spirited Newarkers.

It was generally agreed that the building must be centrally located, where it will be most accessible at all hours of the day and evening, and that it must be large, stately and in a fair degree monumental. It has been suggested that the building have thirteen stories.

Within, on the ground floor, there should be a large auditorium, with a stage ample for the largest choruses, and all the equipment for the most elaborate performances. In time, perhaps, a pipe organ may be installed, large enough for the most ambitious, and in the auditorium may be held free organ recitals by a municipal organist.

Next, on the ground floor, there should be an adequate exposition hall, so arranged that there may be run into it directly from the street level the heaviest machinery and motor truck loads, and even carloads of industrial exhibits. There should be galleries around the hall to seat large audiences, and on the floor could be held pageants, gymnastic drills of school children, etc.

Above the three or four floors taken by the hall and auditorium may be eight or more stories, each laid out in the simplest possible manner, with almost no structural partitions. The floors could be divided as needed. For certain purposes a floor would be omitted here and there, to give high ceilings for large rooms to be used for purposes demanding such a setting.

On the first floor above the auditorium there might be a few rooms, varying in size, suitable for small concerts, for chamber music, and even for musical study and practice, also for the meetings of educational and philanthropic organizations. Here, too, the large civic bodies would hold their public meetings for the discussion of public affairs.

In a comparatively small space—extended for special exhibits—could be displayed the plans for the future development of Newark and its suburbs, now being worked out by the Board of Works, the Interurban Conference, the City Plan Commission, etc. Next would come the permanent exhibit of Newark's industrial products. This would

doubtless take a whole floor, and perhaps two or three. The art museum would come next, but, with New York's resources at its doors, this would require less space than the science and educational museums. The latter have already begun in a small way to lend material, pictures, lantern slides and objects to the schools, much as is done by the Educational Museum of St. Louis. For all the museums, room will be needed to in-

stall and equip, and to ship and receive many things to all parts of the city.

On one of the topmost floors might be the Museum of Newark's History, beginning with the colonial days. A choice collection of material for a museum of this kind is already in existence in the New Jersey Historical Society's building. It is possible that this might find a home in the memorial building as a permanent loan.

Child Labor in Your Town

By Helen C. Dwight

Publicity Department, National Child Labor Committee

HOW much child labor is there in your town? Do you know?

Do you know what legal right the small boy on the corner has to sell you a paper? Is he a licensed vendor? Is his schooling going on in spite of his selling?

Do you know how many children work in factories or stores or offices in your town? Do you know during what hours they work? Do you know how many children work at fruit stands, in bowling alleys, at soda fountains, as messengers, as delivery boys?

Do you know how your state child labor law is enforced? How your juvenile courts enforce it? How your children's societies enforce it? Do you know whether the factory inspector, board of education or superintendent of schools issues work permits in your town? Do you know what a work permit looks like?

Child labor has come to be too much an abstract problem with us. We are apt to regard it as a Cause—something uplifting and worthy, but remote from us. We may believe in the principles of child labor reform, but we are not likely to apply them to the children who live about us.

Yet here at last is a chance to do something definite about child labor. The National Child Labor Committee announces that January 22, 23 and 24 are to be Child Labor Days. Saturday will be observed by synagogues, Sunday by churches and Sunday schools and Monday by secular schools, clubs, civic leagues, and so forth. Two programs for use on Child Labor Day have been prepared, one for clergymen and one for schools. Hymns, prayers, poems and

readings are given. In the program for schools it is suggested that the children prepare essays on child labor, or debate on the subject: "Resolved: That Congress should enact a law prohibiting interstate commerce in child-made goods." The following of either of these suggestions will tend to make the children take a more intimate view of the child labor problem. But it is only through an active interest in the working children of the community that child labor can come to have a civic significance.

Why not start a survey in your town? Why not mark the beginning of it by the observance of Child Labor Day?

These things the National Child Labor Committee asks of every one. And, furthermore, it asks for definite action on the Keating-Owen Federal child labor bill now before Congress. If you want that bill passed to fix a standard for the employment of children throughout the country, there are three things for you to do. The first is to write the National Child Labor Committee, 105 East Twenty-second Street, New York City, for a copy of the bill and a copy of the pamphlet telling why you should support it; the second is to write your congressional representatives asking them to pass the bill; and the third is to pass resolutions in your clubs, leagues and other organizations endorsing the bill.

Why not do these things on Child Labor Day? In other words, why not make Child Labor Day a real thing—a time for you and your neighbor and your whole town to learn what the real significance of child labor is, what that significance is to you and to the welfare of your community?



LOOKING THROUGH THE WINTER DARKNESS TO THE TREE OF LIGHT

The People's Christmas Tree

DO you know that every Christmas season there stands in Madison Square, New York City, the Tree of Light—the people's tree—from whose radiance have been lighted many other trees throughout the country, each with its message straight to the hearts of the lonely rich and poor? Do you know that this is a wonder-tree, because each year it comes—who can tell whence or by whose agency?—as the richest of all gifts, one of love and light, unmarred by any material motive in the unknown givers, untarnished by any hope of package gifts on the part of the hundreds whose uplifted faces glow with the perception of its meaning? And do you know that from Christmas to Christmas there shines a star over the place where the tree stood—the Star of Hope—continuing the message till the Tree of Light itself shall shine again?

How can such a thing be done anonymously—so that it is said that not even the Mayor of the city knows the givers of the tree? The answer is found in the hearts of a group of idealists, whose determination to create the mystery of Christmas for everybody is greater than any thought of self, and who have met with perfect co-

operation and courtesy on the part of those whose help is indispensable in keeping their identity a secret. Since that first community Christmas tree in Madison Square, three years ago, many others have forgotten themselves in helping to perpetuate the gift. They send their communications to "Tree of Light, Station G, New York City," and deposit their gifts with the Tree of Light Account, Plaza Branch, Union Trust Company, Fifth Avenue and Sixtieth Street, and the bank gives them receipts. Surely somebody knows; but nobody will tell. If the press and the police understand the secret, they also understand that the keeping of it is their opportunity to join in one of the biggest interests of life, and they maintain the mystery. In these days of enterprise, when the snapping of photographs on which to hang a "story" is one of the everyday achievements required of reporters, the press has found high compensation for the foregoing of such commonplace triumphs, in grasping the opportunity to tell a story of much larger scope and finer human quality. It was a policeman who gave the name, "the Star of Hope," to the star that burns above Madison Square throughout the year—placed there to lighten

somewhat the increased gloom that seems to settle down over the city when the Tree of Light is gone. Of this, Roy L. McCardell wrote in the *New York World*:

"We are thankful that in the heart of the city, in Madison Square, a new star gleams—a sign of man's love for his fellow-man in the firmament. It is announced that 'an unknown person' has been granted a permit to burn a large electric star against the sky there in the city's heart every night of the year from dusk till dawn. An advertisement? Yes, and the best advertisement ever put forth—publicity for a throbbing thought of love and kindness! The new star is to burn in the sky 'as a symbol to all who see it, of Hope, Peace and Good-will!' There let it burn its message of tender altruism against the sky the while we build a better city underneath that star!"

In the Square, beneath the star, the place of the tree is marked by a star-shaped bed, where flowers bloom from early spring until late autumn.

A special effort was made in last year's celebration in New York to convey a peace message to the multitude who gathered around the tree and listened to the music and joined in the choruses. Copies of the Peace Hymn written by Rev. H. Periera Mendes were distributed to the people and sent to various cities throughout the country, and, later, even to Europe, with accounts of the ceremonies. Voicing this plea for peace, Os-ke-non-ton, a Mohawk Indian singer, represented primeval America in the leading of the throng. When the lights—turned on who knows by whom?—began to glow from the lowest branches of the tree and extended gradually upward to the topmost light of all, trumpeters stationed at the base of the tree sounded their greetings to the four quarters of the heavens and were answered by other trumpeters on the steps of a neighboring church, where stood Os-ke-non-ton in the garb of his tribe, waiting to lead the chorus of 300 voices in the singing of the Peace Hymn to the music of *America*, as the procession moved from the church to the tree:

"Father, enthroned on high!
Humbly Thy children cry
Send peace on earth.
May peace, prosperity
Fill earth from sea to sea;
May mankind bend the knee
In fear of Thee."

Standing on the platform, the Indian chanted one of his tribal songs, an invocation of Thanksgiving to the Great Spirit,

and then delivered, with band accompaniment, Arthur Farwell's "Fulfillment," with its opening cry,

"Joy! Brothers, Joy! The far-spread vision of light behold."

One of the women who was distributing the multitudes of leaflets containing the words of the Peace Hymn, was approached by a sailor, who asked doubtfully: "Say, lady, you wouldn't think I was religious if I asked you for one of them, would you?" "Why, not at all!" she answered, handing him a leaflet. A little later she saw the same sailor edging his way around through the crowd to reach her again, and soon she heard him ask: "Say, lady, you don't think the boys on the ship would think I was religious if I took a bunch of these down there for them, do you?" "Of course not," she reassured him, and the peace message went with him, to do its work regardless of creed or lack of creed. How strong an appeal the message had made to the multitude may be judged from the fact that when this same giver of leaflets tried, after midnight, to find some copies of the hymn lying on the ground to carry home to friends, not one was visible; the crowd had taken them away—taken them home from the Square that, the year before, had been littered with discarded programs.

The American Press Association sent out to newspapers all over the country an illustrated story showing how this way of keeping Christmas was being adopted in various cities, later sending out another story to small towns, giving suggestions for establishing a new national custom, that of planting a living Christmas tree in some public place in each town. In 1913 more than 160 towns were in correspondence about their community trees with the New York headquarters, and in 1914 at least 300 places had their own trees. Now and then it is found that in some city the movement is not being directed with a fine perception of its highest possibilities. To such a city is often sent a reprint of a letter which appeared in the local paper of an Ohio town, written by a citizen who had caught the real meaning of the Tree of Light. He said:

"In reading an account of the proposed Christmas tree to be erected in the public square, it seemed to me that the true purpose of a municipal tree has been misunderstood. The great evergreen which stood in Madison Square, New York, last year, from Christmas

Eve until New Year's, was the embodiment of quite another idea.

"This tree was undecorated save for the hundreds of electric lights hidden in its branches, the white star which crowned it, and the fall of snow which came just at the right moment. No gifts were heaped at its foot nor suspended from its branches, but every evening groups of singers, sometimes adults, sometimes children, gathered on a pine-sheltered platform

neous and anonymous. * * * By all means reach the needy children through the usual charitable channels, but DON'T distribute gifts from the tree. Let us keep our tree free from the material misinterpretation of Christmas—that the spirit of the Eternal, whose symbol it is, may teach us the real meaning of Christmas.

It is impossible to give any detailed picture of the spread of this movement and



PHILADELPHIA'S BEAUTIFUL TREE

near the tree and sang the Christmas hymns and carols, embodying the religious experience of many peoples. At evening, as soon as the lights began to twinkle in the tree, the crowds would gather—young and old, rich and poor, happy and unhappy—and soon hundreds of voices would take up the song. Elbow to elbow in the throng, stood men and women from every walk in life. If, under the influence of the spiritual idea for which the tree stood, material gift-giving resulted, it was sponta-

of its wonderful influence—of the response it has met in the hearts of the people. Choirs that wouldn't sing together, sectarians that wouldn't pop corn together, as Zona Gale has so characteristically portrayed,* have been harmonized and united. The Ohio town alluded to above gave up the

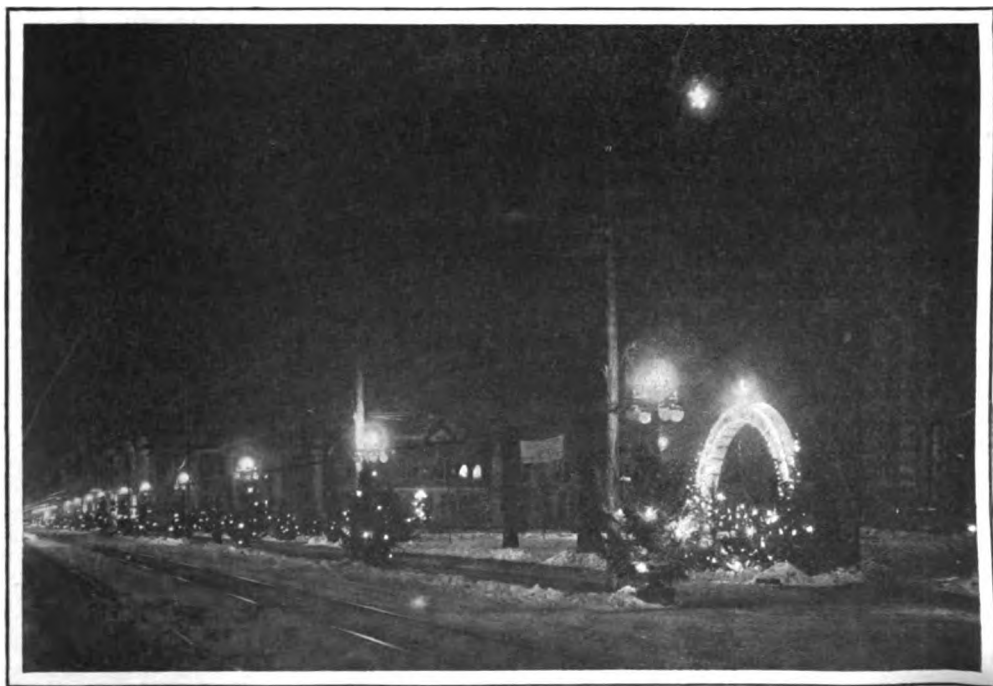
* See "A Great Tree," in *Everybody's Magazine*, December, 1913.



THE CHRISTMAS DECORATIONS IN PENN SQUARE, READING, PA.

intended distribution of gifts from the tree, in response to the letter quoted. One of the most beautiful community Christmas trees ever seen was the great Norway spruce, 65 feet high, with a spread of 50 feet, which was brought last year from a farm in Burlington County, New Jersey,

set up in Independence Square, Philadelphia, and trimmed with 4,000 lights. The tree had been planted on the farm, just before the Civil War, by Benjamin Ridgway, to celebrate the coming marriage of his son. The boy went to the war, and was killed before Fredericksburg on December 13, 1862.



A SCENE IN THE CHRISTMAS FESTIVAL OF MARSHALLTOWN, IOWA

Permission to cut down the tree for the 1914 celebration in Philadelphia was given by a later owner of the farm, and the decision to use the tree in this way was reached on the anniversary of the death of the boy for whom it had been planted.

One very picturesque celebration was held at Hampton, Va., aided by the pageantry of passing boats. In large and small places, from the Eastern to the Western coast, community trees brought the same message of Christmas remembrance to all peoples. To mingle with the orderly, absorbed crowd on Christmas Eve and hear the comments; to know that the "down-and-

outer," when life seems hopeless, comes to be near the place where stood the tree that "somebody cared enough to put here for me;" to hear the lonely stranger in the fur coat say: "This is *my* Christmas tree!"—these are some of the compensations of the idealist.

The message of peace still rings in the hearts of the multitude, and it is hoped next year to have a Peace Tree in every city in Europe.

EDITOR'S NOTE.—Novello & Company, Ltd., 2 West Forty-fifth Street, New York City, are getting out a book of carols, bearing on its cover a picture of the Tree of Light, to be used for this year's chorus singing around community Christmas trees.

Dayton's Exhibit of City Manager Government

By Lent D. Upson

Executive Secretary, National Cash Register Company

DAYTON, OHIO, has concluded its first exhibit of city manager government—an effective presentation of social work and social needs which had more than local significance. The exhibit offered to students of government from all over the country an excellent opportunity to judge critically the results of two years of a unique type of city administration.

The exhibit, of course, had a local purpose—to show simply and straightforwardly the progress of city government during the past biennium. And in a large measure it was successful. Here was a city report seen by 50,000 people. It was a report in models, charts, photographs, music, folk dancing and word-of-mouth explanations by the men and women doing the work. It was seen and read and studied by half of the city's population, and that population went away knowing that city employes are earnest human beings, conscientious in the service which they are rendering. The total cost was less than that of printing a city report.

The show was held in the basement and first floor of Memorial Hall during the week beginning October 9, and was supervised by the local Bureau of Municipal Research in coöperation with the city government, the schools and the county. An unusual effort was made to present a very creditable exhibition, and in character and size it has probably not been outclassed except by New York City. The show was

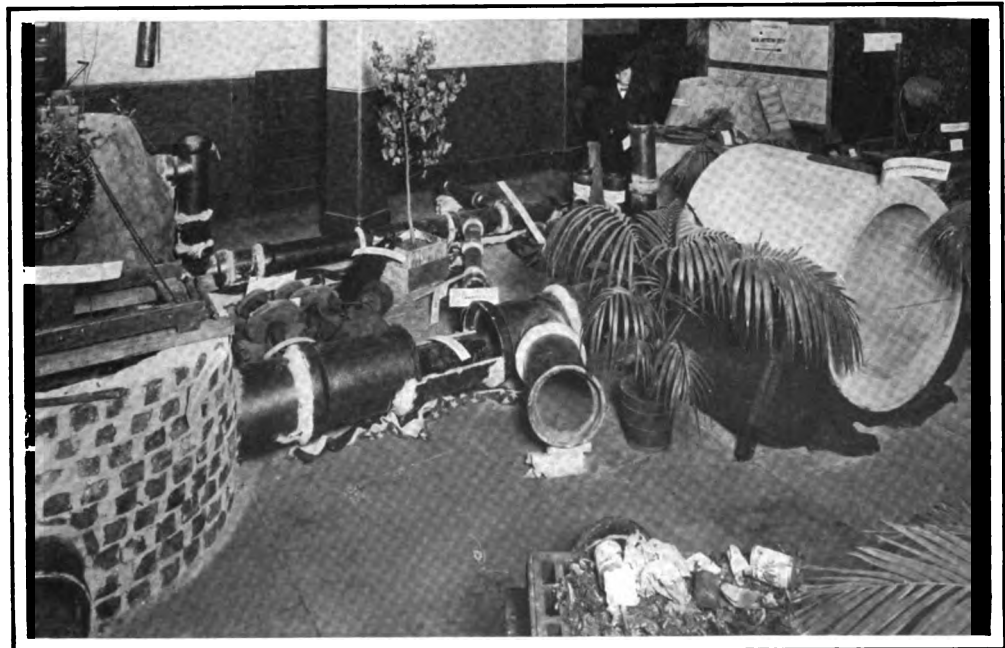
informally opened, and there were no speeches except as each bureau of the government was required to have men constantly on the ground to demonstrate its exhibit, answer questions, and receive suggestions from the visiting public. Wherever possible the normal activities of the municipality were shown, and the public found a critical interest in the examples of folk dancing, school music, testing of supplies, cleaning of sewers, building brush brooms, road making, dairy and food inspection, etc.

The exhibit had a further interest because it emphasized some of the newer characteristics of city government. Throughout the show was seen the coöperation which newly exists between departments: the use of police by the Health Division, the service rendered by the Department of Correction in the cleaning and maintenance of parks, etc. There was also a certain inspiration obtained by departments in learning what other departments were doing and in realizing the advances which were being made.

Finally, the exhibit was the worst blow that the unfriendly critic of the new government has received. No person having a knowledge of municipal administration in America, and familiar with the standards by which municipalities must be judged, could hesitate in believing that Dayton has marched far ahead of most cities in the country.

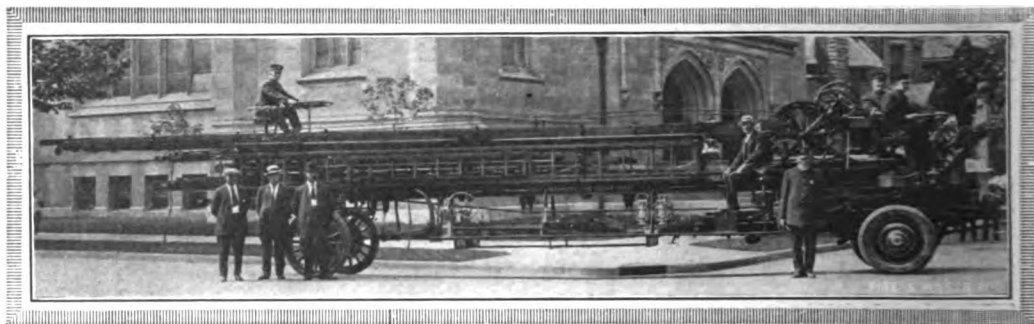


SHOWING SOME OF THE ACTIVITIES OF THE DAYTON SCHOOLS



THE ENGINEERING DEPARTMENT'S SEWER EXHIBIT

Illustrations of Provision for Fire Protection in Two Cities



75-FOOT AERIAL TRUCK IN USE IN RICHMOND, IND., CARRYING 306 FEET OF
LADDERS AND ONE LADDER PIPE



NEW STATION AND MOTOR APPARATUS OF THE FIRE DEPARTMENT IN
OCEAN CITY, N. J.

Motor Apparatus for City Sanitation



MOTOR FLUSHING AND SPRINKLING MACHINE USED BY THE CITIZENS STREET CLEANING BUREAU OF CHICAGO



GARBAGE TRUCK IN USE BY THE PUBLIC WORKS DEPARTMENT, BOSTON, UNLOADING AT THE DUMP

FK411

Items of Municipal and Civic Progress

Missouri Supreme Court Finds for Commission Government

The Missouri Supreme Court, in an opinion filed on November 17 by Judge Bond, sustained the act of the Legislature of 1913 providing the commission form of government for such municipalities in the state as might choose to adopt it. In his opinion Judge Bond said, in part:

"The cases cited from other jurisdictions demonstrate that Missouri was only following the trend of those measures of reform previously enacted in the leading states of the Middle West and in other parts of the country for the eradication of inefficiency in the working of their governmental agencies.

"The union in their hands of equal judicial as well as administrative authority does not violate the constitutions of the various states, since it has been uniformly held that the municipalities so governed are not in any sense sovereignties, and hence do not fall within the provisions of the constitution which apportion the powers of sovereign states.

"The salutary measures enacted by the legislature of this state on this subject reflect credit on that body and result in the protection of urban life and the promotion of civic betterment. The act under review was devised, and in our opinion will contribute, to these ends and was enacted under full constitutional warrant."

* *

A Nostrum War

Health Commissioner Goldwater, of the New York Health Department, is making an attempt to regulate the sale of proprietary and patent medicines in New York City by a section in the sanitary code of the Health Department providing that any patent medicine sold in the city after December 31 of this year must have its formula registered with the Health Department.

Some manufacturers of patent medicines have indicated their intention to resist the enforcement of the ordinance. That the Health Department will be able satisfactorily to meet the situation is indicated by the reply of Dr. Goldwater to one firm which declared in a circular addressed to a number of New York pharmacists that it would not give up its formulas to the Health Department nor put them on the labels, assuring the pharmacists that they would "back

them up to the limit." Dr. Goldwater's reply follows:

"GENTLEMEN: Through the courtesy of a local pharmacist there has come into my possession a copy of your circular letter to retailers in this city, in which you announce it to be your intention to contest Section 117 of the Sanitary Code. If you will be kind enough to let me know the name of your principal distributor in this city, the Department will be very glad to place his name on its list for preferred attention after the first of January.

"Very truly yours,
"(Signed) S. S. GOLDWATER,
"Commissioner."

The section referred to reads as follows:

SECTION 117. REGULATING THE SALE OF PROPRIETARY AND PATENT MEDICINES.—No proprietary or patent medicine manufactured, prepared or intended for internal human use, shall be held, offered for sale, sold, or given away, in the City of New York, until the following requirements shall, in each instance, have been met:

The names of the ingredients of every such medicine to which the therapeutic effects claimed are attributed and the names of all other ingredients except such as are physiologically inactive shall be registered in the Department of Health in such manner as the Regulations of the Board of Health may prescribe.

The expression "proprietary or patent medicine," for the purposes of this section, shall be taken to mean and include every medicine or medicinal compound manufactured, prepared, or intended, for internal human use, the name, composition, or definition of which is not to be found in the United States Pharmacopoeia or National Formulary, or which does not bear the names of all of the ingredients to which the therapeutic effects claimed are attributed and the names of all other ingredients except such as are physiologically inactive, conspicuously, clearly, and legibly set forth, in English, on the outside of each bottle, box, or package in which the said medicine or medicinal compound is held, offered for sale, sold, or given away.

The provision of this section shall not, however, apply to any medicine or medicinal compound, prepared or compounded upon the written prescription of a duly licensed physician, provided that such prescription be written or issued for a specific person and not for general use, and that such medicine or medicinal compound be sold or given away to or for the use of the person for whom it shall have been prescribed and prepared or compounded; and provided, also, that the said prescription shall have been filed at the establishment or place where such medicine or medicinal compound is sold or given away, in chronological order according to the date of the receipt of such prescription at such establishment or place.

Every such prescription shall remain so filed for a period of five years.

The names of the ingredients of proprietary and patent medicines, registered in accordance with the terms of this section, and all information relating thereto or connected therewith, shall be regarded as confidential, and shall not be open to inspection by the public or any person other than the official custodian of such records in the Department of Health, such persons as may be authorized by law to inspect such records, and those duly authorized to prosecute or enforce the Federal Statutes, the Laws of the State of New York, both criminal and civil, and the Ordinances of the City of New York, but only for the purpose of such prosecution or enforcement.

This section shall take effect December 31, 1915.

In contrast to the bluff and bluster referred to, attention is called to a letter

which the Commissioner has received from a well-known drug firm in the city, which reads as follows:

"DEAR SIR: We beg to say that we intend to comply with the provisions of Section 117 of the Sanitary Code of the Department of Health of the City of New York, and in order to do so we hereby apply for the proper forms of registration so that we can fill the same out and file the formulæ in your office.

"Thanking you in advance for your courtesy, and with all good wishes, we remain,

".....
"Vice-President."

+ +

A Mayor's Letter to City Employees

In an effort to create in the city employees of Savannah the right attitude toward their work and to raise their standards of efficiency, Mayor W. J. Pierpont has had distributed among them a printed communication in which the ideal public servant is described. He says, in part:

"Good service means a manifestation of persistent interest in the welfare of the city. It means an appreciation of all its interests and a willingness on your part to do whatever you can to promote them.

"The man whose heart is in his work does something more than the work that comes regularly to him. He keeps his eyes open and his mind active, and shows a spirit of willingness to coöperate with all of his fellow employees for the good of the corporation in whose employ he is.

"You are asked to show this spirit in your relations with your employer, the city of Savannah. You should appreciate that you are a part of a great business machine whose smooth and satisfactory working depends upon each and every part putting forth the best effort possible. To that end every employee of the city is asked to *note and report these things promptly to the Mayor's office*, by telephone or in writing, cards being supplied by the head of your department for that purpose:

"WATER LEAKS.—The waste of water costs the municipality many thousands of dollars yearly. Report leaks as quickly as possible.

"BAD SIDEWALKS.—Every year the municipality is sued because of sidewalks that have become dangerous to pedestrians.

"FIRE DANGER.—Collections of trash, that once ignited may endanger property.

"ENCROACHMENTS.—It is the policy of the municipality to stop any further encroachments beyond the building line on any street or lane.

"NEW BUILDINGS.—The municipality has but one building inspector. Alterations and improvements to buildings should be reported.

"NUISANCES.—It is the desire of the municipality to protect its citizens from nuisances of any character that the law does not permit or tolerate. Included in this are dirty or trashy yards or lots, offensive odors, etc.

"NEW BUSINESSES.—Justice to all business

interests demands that the municipality should promptly know of any new business concern, so that all may be on the same basis as to taxation.

"OBSTRUCTIONS OR OTHER DANGERS.—Every employee of the municipality should consider himself charged with the duty of protecting citizens from the dangers that arise from unlighted obstructions on the highways, or other conditions that are dangerous to limb or life.

"By showing your interest in these and other matters, you will show that you have a real interest in the affairs of the city. As its executive head I ask for your assistance, *not for a day or two, but continuously.*"

+ +

A Message from the Mayor of Melrose

The city of Melrose, Mass., is constantly at work, with the aid of a number of civic associations, in building up sentiment on the part of individuals for the improvement of the place. A message from the Mayor appealing to the citizens to help in keeping the street parking strips in good condition, was first published in a local paper. It has since been printed in little slips, which are kept on hand by the city for constant distribution. This simple method embodies a suggestion for other places. Here is Mayor Adams' letter:

ONE WAY TO IMPROVE THE CITY

Citizens who are interested in the beauty of the city, and who take such fine care of their own lawns and grounds, are earnestly invited to care also for the grass space at the outside edge of the sidewalk of both their own and adjoining vacant lots. Such work will add greatly to the appearance of both the streets and the estates.

There are upwards of 100 miles of sidewalks in Melrose, and it is obvious that no appropriation adequate for the work can be made.

Will the people of this city, interested so much in its advancement and who do so many good things, also join in this work, and thus help to keep Melrose the most attractive residential place anywhere?

Charles H. Adams,
Mayor.

+ +

Mural Decorations in New York High Schools

The activities of the Municipal Art Society of New York in the decoration of the city's high schools, a field which it has made its own for a number of years, are presented in the October Bulletin of the Society. Since 1907 this organization has been the directing spirit, and a frequent donor, in this important work, so full of possibilities

in stimulating the sense of form, of color and of dramatic action of the children at their most impressive age.

The Society's initial gift to the Morris High School of decorations by Edwin W. Deming was later followed by its assuming the entire decoration of the Washington Irving High School. The adornment of the entrance hall with a series of mural paintings by Barry Faulkner, rendered possible through the gift of Mrs. E. H. Harriman, is in an advanced stage of progress, and an overmantel by Miss Frances Grimes has already been installed. The decoration of the great staircase hall with suitable panels is also under way, the gift of the Society, and a prize design by Robert K. Ryland for the auditorium awaits the completion of arrangements to secure a fund for its installation.

Discussing the work of other agencies along these lines, the Bulletin describes the paintings by Mr. Frederick Lincoln Stoddard which the General Organization of the Eastern District High School of Brooklyn has installed in that school, the prize competitions of the Society of Beaux-Arts Architects, and the mural painting class conducted by Dr. Henry E. Fritz at the New York Evening Industrial High School.

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Surveying Cleveland's Educational Facilities

The Cleveland Foundation is just completing a comprehensive survey of the existing educational facilities of the city of Cleveland, which will be embodied in 25 volumes—readable pocket editions—describing every factor in the school life of the city's children.

Aiming to create a strong, well-informed public opinion in support of an adequate school policy, the Survey Committee has endeavored to make this survey as interesting as possible and to keep the citizens informed of each step as it is taken. To this end a scheme of coöperation with the press was devised. The survey volumes, each comprising a single, complete section of the work, are issued at intervals of about one week. The most important features of each volume are presented at a public luncheon, and on the same day the local papers publish a report of the section presented.

The work of the survey was done by 25 educational experts under the direction of

Dr. Leonard P. Ayres, of the Russell Sage Foundation. About eight months was devoted to the task, which, it is estimated, will cost about \$30,000. The list of sectional reports is as follows:

Child Accounting in the Public Schools—Leonard P. Ayres
 Educational Extension—Clarence A. Perry
 Education through Recreation—George E. Johnson
 Financing the Public Schools—Earle Clark
 Health Work in the Public Schools—Leonard P. Ayres
 Household Arts and School Lunches—Alice C. Broughton
 Measuring the Work of the Public Schools—Charles H. Judd
 Overcrowded Schools and the Platoon Plan—S. O. Hartwell
 School Buildings and Equipment—Leonard P. Ayres
 Schools and Classes for Exceptional Children—David Mitchell
 School Organization and Administration—Leonard P. Ayres
 The Public Library and the Public Schools
 The School and the Immigrant
 The Teaching Staff—Walter A. Jessup
 What the Schools Teach and Might Teach—Franklin Bobbitt
 The Cleveland School Survey (Summary volume)—Leonard P. Ayres
 Boys and Girls in Commercial Work—Bertha M. Stevens
 Department Store Occupation—Iris Prouty O'Leary
 Dressmaking and Millinery—Edna C. Bryner
 Railroad and Street Transportation—R. D. Fleming
 The Building Trades—F. L. Shaw
 The Garment Trades—Edna C. Bryner
 The Metal Trades—R. R. Lutz
 The Printing Trades—F. L. Shaw
 Wage Earning and Education (Summary volume)—R. R. Lutz

Copies of these reports may be secured from the Survey Committee of the Cleveland Foundation, Cleveland, Ohio, or from the Division of Education of the Russell Sage Foundation, New York City, at 25 cents per volume postpaid with the exception of "Measuring the Work of the Public Schools," by Charles H. Judd, "The Cleveland Survey," by Leonard P. Ayres, and "Wage Earning and Education," by R. R. Lutz, the price of which is 50 cents each.

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A Municipal Research Society

The Dallas Society of Municipal Research was formed last month at a dinner which Mayor Henry D. Lindsley gave to the municipal officials and executives of Dallas and a few prominent citizens.

The Society differs from the usual research bureau in that the personnel consists of the department heads of the city government, the members of the Board of Commissioners and the president of the Board of Education. It was decided to make the Mayor *ex-officio* president of the organization; the members of the Board of Commissioners and the president of the Board of Education vice-presidents, these individuals

to act *ex-officio* without vote. An executive committee of seven members was to be nominated by the president and approved by the society, the secretary to be appointed in the same way.

The purpose of the organization is:

"To study and initiate progressive, efficient and economical methods in municipal business affairs and to bring about a closer coöperation of the various departments of the Dallas city government, with a view to improving living conditions in Dallas and making the government of the greatest possible service to its citizens."

In presenting his plan for the Municipal Research Society, Mayor Lindsley said that before executing the many plans for municipal improvements which the administration has in mind, he wished to have the best thought of the department heads relating to each one. He also pointed out the importance to each department head of a broader knowledge of the big administrative problems of the city.

The by-laws of the organization will contain a clause confining the activities of the society strictly to the study of municipal questions and improvements in city government, and it is asserted that the movement will be kept entirely free from politics.

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City Planning Lectures

Thomas H. Mawson, city planner and lecturer on landscape design at the University of Liverpool, England, has arranged to deliver lectures at several of the larger universities in the United States during the coming spring. His subject will be the scheme upon which he is at work for the replanning of Athens. The titles of the lectures are "Athens of the Past," "Athens of the Present," and "Athens of the Future." The first deals with ancient Athens, the second is in the nature of a survey of the resources for the creation of a new Athens which shall conserve and restore all that remains of past glories, while the third shows how this dream for the future of the city is to be realized.

Mr. Mawson's plans for Athens have reached the stage where he is able to illustrate the lectures by lantern slides contrasting the old city with the new one, and so assure his hearers that it is the intention to treat the Athens of the past with the respect which is its due, and that modern needs can be met without disturbing it and without the clashing of interests or esthetics.

A Municipal Thanksgiving Service

The city of Cuero, Texas, observed Thanksgiving Day in a municipal homecoming and thanksgiving service, by proclamation of the Mayor. To make this successful, the coöperation of all the governmental, commercial, civic, fraternal and religious bodies was earnestly invited.

The service was held in the evening in a public hall, and was formally opened by the Mayor. Music was furnished by the municipal band and the municipal choir, assisted by a soloist. There was also singing, in which the audience was asked to join. The devotional portions of the service were contributed by local pastors, one of whom delivered the municipal sermon.

One of the reasons for bringing Cuero's citizens together upon this occasion was that the important subject of providing playgrounds for the city might be presented to them. The offering of the evening was used to start a fund for the acquisition and improvement of one or more of the beautiful parks adjacent to the city, which it is desired to make available for playground purposes.

+ +

Vocational Assistance for New York Children

Superintendent Walter L. Sears, of the New York Public Employment Bureau, has recently devised a Vocational Guidance Blank for the use of boys and girls who apply to the Bureau, the purpose of which is to aid the vocational counselor to determine each young person's adaptabilities and aptitudes and thereby direct him or her to a proper vocation.

The applicant is asked to consider carefully before writing down the answers to the eighty-six questions, some of which are:

Has anyone ever suggested or advised you as to what your future course should be with regard to a vocation?

What is your greatest ambition?

Of what particular benefit has your schooling been to you?

Do you take regular physical exercise?

Who has the greatest interest in your welfare?

What kind of reading have you done?

What do you look for first in the newspapers?

Do you find yourself assuming a position of leadership among your fellows in your work or recreation?

Are you willing to pay the price in hard work to obtain success?

After filling out this blank, the boy or girl is advised regarding the course of studies to pursue in order to increase his qualifications, the Bureau, in the meantime, making every effort to find him suitable employment.

For the regular work of the Bureau two new branches have been opened, one at 540 East Seventy-sixth Street, and another in Brooklyn at the corner of Franklin and Java Streets. The official records of the Bureau for the first year of its operations, which are now available, show that 8,207 positions were offered by 2,210 different employers, 40,463 applicants for employment were registered, and 5,430 positions were reported as filled.

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Overhanging Signs

The action of the Art Jury of Philadelphia in regard to illuminated overhanging signs is noteworthy.

When the first designs for overhead signs were submitted to it, the Jury adopted a general resolution recommending the refusal of permits for new signs and the removal of those already erected. The Department of Public Safety was not prepared to refuse all applications for permission to erect such signs, and therefore requested the Jury to act upon individual signs. This the Jury did, at the same time seeking to minimize the nuisance as much as possible by means of the recommendation adopted by the Department of Public Safety, that such signs be limited in the extent of overhanging the sidewalk, and also by the effort to make the signs less obnoxious and garish than they have sometimes been.

Each sign represents a cost which, compared with the cost of other undertakings passed upon by the Jury, is practically negligible, yet the Jury considers the debasing of public taste resulting from the erection of these signs perhaps greater than that resulting from any other cause. The Jury has therefore called its recommendations to the attention of the Mayor and City Councils of Philadelphia, in its Fourth Annual Report, as follows:

"The Art Jury has carefully considered the subject of overhanging signs, whether illuminated or not, and has investigated the practice in New York, Boston, Washington and the principal foreign cities. The Jury has concluded that the advantages of such signs are greatly overbalanced by their disadvantages.

The danger to pedestrians from all signs projecting over the sidewalk is one that cannot be obviated and is in itself a sufficient reason for refusing permission for their erection.

"While illuminated signs add somewhat to the light of the city at night, this additional light is better distributed by signs parallel to the façades of the buildings, to which they can be securely affixed, against the walls. A continuous series of overhanging signs interferes with the light of the street in the daytime and reduces the value of properties fronting on the street because of the unattractiveness in the view along the street overhead. This detriment to the appearance of streets is becoming accentuated as signs are projected from building after building, not only from the lower, but from the upper floors as well, while one sign cuts off the view of others and so diminishes the value of this method of advertising. A continuation of the process will result disastrously to the appearance of the city as a whole and will be an increasingly serious menace to the lives and limbs of the people who use the sidewalks as the signs become older and their supports rust or become otherwise weakened.

"The Jury therefore recommends to the Chief of the Electrical Bureau and the Department of Public Safety that all further permits for the erection of signs projecting over the sidewalk be refused.

"It further recommends that as soon as possible a general plan shall be devised for the ultimate removal of all such signs already erected and for the future restriction of all private signs to those closely attached to the walls of buildings and parallel therewith."

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A Workingmen's Reading Room

The public library of Calgary, Alberta, established in the downtown section of the city last winter a reading room for workmen which proved to be a successful experiment.

A local motion picture theatre was at the time empty; it had been bought by the government for post office purposes, but was not yet required for use, so rent was free. An electric company gave the light, the city gave the water and a small appropriation, citizens contributed books and old magazines, the Park Department supplied benches, and the library had some old tables which it loaned. Checkers and chess were added, and these, with some of the furniture, were paid for by the library—the total expenditure being about \$30. Free stationery was provided and thousands of letters were written by the men.

The reading room was open from January 1 to April 1, and there were from 150 to 250 men in the room at all hours of the day during that period.

Conventions and Exhibitions

ON THE CALENDAR

DECEMBER 13-17.—CHARLESTON, S. C.
Southern Commercial Congress. Managing Director, Clarence J. Owens, Southern Building, Washington, D. C.

DECEMBER 14-17.—WORCESTER, MASS.
International Road Congress. General Secretary, Herbert N. Davison, Secretary Chamber of Commerce, Worcester, Mass.

DECEMBER 15.—JEFFERSON CITY, Mo.
League of Missouri Municipalities. Secretary, M. V. Carroll, Sedalia, Mo.

DECEMBER 27-JANUARY 1.—COLUMBUS, OHIO.
American Association for the Advancement of Science. Secretary, Dr. L. O. Howard, Smithsonian Institute, Washington, D. C.

DECEMBER 27-JANUARY 8.—WASHINGTON, D. C.
Second Pan-American Scientific Congress. Secretary-General, John Barrett, LL.D., Pan-American Union, Washington, D. C.

DECEMBER 28-29, WASHINGTON, D. C.
American Association for Labor Legislation. Secretary, John B. Andrews, 131 East Twenty-third Street, New York City.

DECEMBER 28-30.—WASHINGTON, D. C.
American Economic Association. Secretary, Allyn A. Young, Cornell University, Ithaca, N. Y.

DECEMBER 28-31.—WASHINGTON, D. C.
American Civic Association. Secretary, Richard B. Watrous, Union Trust Building, Washington, D. C.

DECEMBER 28-31.—WASHINGTON, D. C.
American Political Science Association. Secretary, Chester Lloyd Jones, University of Wisconsin, Madison, Wis.

DECEMBER 28-31.—WASHINGTON, D. C.
American Sociological Society. Secretary, Scott E. W. Bedford, University of Chicago, Chicago, Ill.

DECEMBER 30.—NASHVILLE, TENN.
Engineering Association of the South. Secretary, W. Harwell Allen, Stahlman Building, Nashville, Tenn.

JANUARY 8.—NEWARK, N. J.
American Academy of Arborists. Secretary, J. J. Levison, Park Department, Brooklyn, N. Y.

JANUARY 12-15, 1916.—BALTIMORE, MD.
American Institute of Chemical Engineers. Secretary, J. C. Olsen, Cooper Union, New York City.

JANUARY 17-18.—BOSTON, MASS.
American Forestry Association. Executive Secretary, P. S. Ridsdale, 1410 H Street, N. W., Washington, D. C.

JANUARY 17-19.—WASHINGTON, D. C.
National Civic Federation. Secretary, D. L. Cease, Metropolitan Tower, New York City.

JANUARY 18-20.—NEW YORK CITY.
American Society of Heating and Ventilating Engineers. Secretary, J. J. Blackmore, 29 West Thirty-ninth Street, New York City.

JANUARY 18-20.—CHICAGO, ILL.
American Wood Preservers' Association. Secretary, F. J. Angier, Mt. Royal Station, Baltimore & Ohio Railroad, Baltimore, Md.

JANUARY 19.—TRENTON, N. J.
New Jersey State League of Municipalities. Secretary, C. J. Swartz, City Hall, Trenton, N. J.

JANUARY 19-20.—NEW YORK CITY.
American Society of Civil Engineers. Secretary, Charles Warren Hunt, 220 W. Fifty-seventh Street, New York City.

JANUARY 20-22.—MINNEAPOLIS, MINN.
National Society for the Promotion of Industrial Education. Secretary, Alvin E. Dodd, 140 W. Forty-second Street, New York City.

JANUARY 21.—NEW YORK CITY.
American Society of Engineering Contractors. Secretary, J. R. Wemlinger, South Ferry Building, New York City.

JANUARY 27.—BOSTON, MASS.
Massachusetts Association of Boards of Health. Secretary, Dr. Francis H. Slack, Health Department, City Hall Annex, Boston, Mass.

FEBRUARY 8-10.—WASHINGTON, D. C.
Chamber of Commerce of the United States. General Secretary, Elliot H. Goodwin, Riggs Building, Washington, D. C.

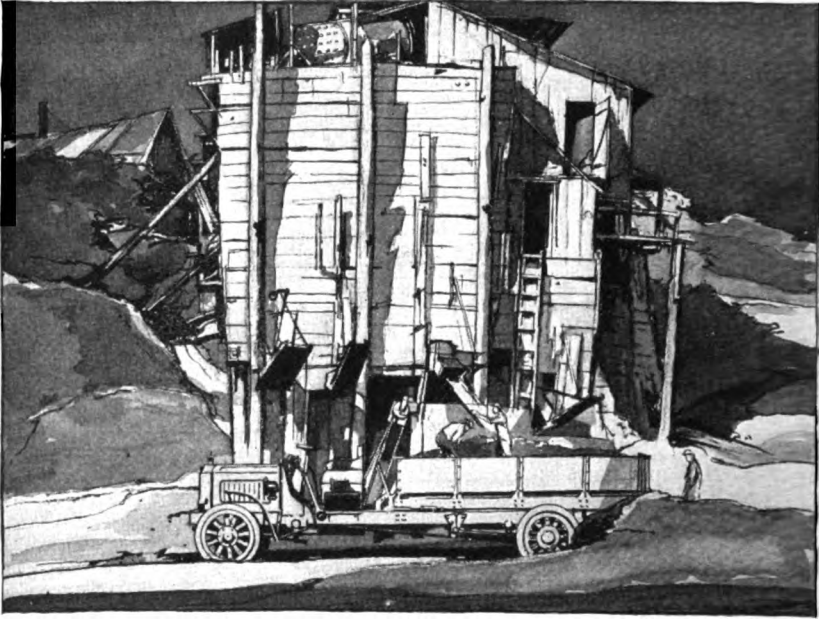
FEBRUARY 15-18.—CHICAGO, ILL.
National Conference on Concrete Road Building. Secretary, J. P. Beck, 208 S. LaSalle Street, Chicago, Ill.

FEBRUARY 22-25.—PITTSBURG, PA.
American Road Builders' Association. Annual convention and exhibit of road building machinery. Secretary, E. L. Powers, 150 Nassau Street, New York City.

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National Municipal League

An extremely interesting discussion of the provisions which should be embodied in an ideal city charter was a feature of the twenty-first annual convention of the National Municipal League, held in Dayton, Ohio, November 17-19. The League's Committee on Municipal Program submitted in pamphlet form its draft of a model city charter. After careful discussion by the convention, a number of the recommendations were approved by those present and the rest were referred back to the committee with the understanding that the revised



FOR EVERY MUNICIPAL
HAULING NEED THERE IS A

Packard

NEWTYPE CHAINLESS TRUCK

Chainless trucks of the new Packard line are built in 1, 1½, 2, 3, 4, 5 and 6-ton sizes, all uniform in design; with special frame lengths and speeds to suit the work for which they are chosen.

They have all kinds of power attachment—hydraulic hoists for dump bodies, power winches for hoisting heavy weights, power pumps, swinging cranes and similar appliances—all driven from the transmission.

Any chassis may be fitted with any type of body, whether for passenger or commercial service. Send to Department L for catalog.

PACKARD MOTOR CAR COMPANY, *Detroit*

Ask the man who owns one

charter in its entirety would be submitted to the whole membership for an advisory referendum vote.

"Municipal Progress in Twenty-One Years" was the theme of the annual message of the League's retiring President, William Dudley Foulke. It was an address full of optimism as to the future of American municipal government.

In addition to the reports of the various committees of the League, the important items on the program included Secretary Woodruff's address on "The American Conception of the City"; papers on "Progress of Home Rule in Ohio," by Mayo Fesler, Secretary, Cleveland Civic League; "Civic Education," by Charles W. Dabney, President, University of Cincinnati, and Dr. E. A. Fitzpatrick, of Madison, Wis.; and "Proportional Representation in Ashtabula," by Prof. A. R. Hatton, of Cleveland. There was also a joint session with the City Manager Association, in which the subject for discussion was "Professional Standards for the New Profession of City Manager."

Notable among the group meetings held in connection with the convention were the sessions of the Civic Secretaries Committee. These sessions were attended by a live group of secretaries of important city clubs and civic organizations, and resulted in the development and interchange of many practical ideas.

The officers and Council of the National Municipal League, as elected at the Dayton meeting to serve for the ensuing year, were:

President
Lawson Purdy, New York

Vice-Presidents

Miss Jane Addams, Chicago, Ill.	George McAneny, New York
John Stewart Bryan, Richmond, Va.	J. Horace McFarland, Harrisburg, Pa.
Richard S. Childs, New York	Robert Treat Paine, Boston, Mass.
Charles W. Dabney, Cincinnati, Ohio	L. S. Rowe, Philadelphia, Pa.
Walter L. Fisher, Chicago	Charles Richardson, Philadelphia, Pa.
Frank J. Goodnow, Johns Hopkins University	Chester H. Rowell, Fresno, Cal.
A. Lawrence Lowell, Harvard University	Dudley Tibbits, Troy, N. Y.

Secretary
Clinton Rogers Woodruff

Treasurer
George Burnham, Jr.

Council

Ernest Hamlin Abbott, New York	Augustus Raymond Hatton, Cleveland, Ohio
Miss Grace Abbott, Chicago, Ill.	Raymond V. Ingersoll, Brooklyn, N. Y.
Charles W. Andrews, Syracuse, N. Y.	Camillus G. Kidder, New York
M. N. Baker, Montclair, N. J.	Herman G. James, Austin, Texas

W. P. Bancroft, Wilmington, Del.	W. D. Lighthall, Montreal, Canada
Charles J. Bonaparte, Baltimore, Md.	Meyer Lissner, Los Angeles, Cal.
John A. Butler, Milwaukee, Wis.	Knowlton Mixer, Buffalo, N. Y.
Harvey Stuart Chase, Boston, Mass.	Frederic Cook Morehouse, Milwaukee, Wis.
Julius Henry Cohen, New York	Oliver McClintock, Pittsburgh, Pa.
Mrs. B. W. Corkran, Jr., Baltimore, Md.	T. P. Newberry, Detroit, Mich.
Dwight F. Davis, St. Louis, Mo.	Elliott Hunt Pendleton, Cincinnati, Ohio
George B. Dealey, Dallas, Texas	James W. S. Peters, Kansas City, Mo.
Albert DeSilver, Brooklyn, N. Y.	F. S. Spence, Toronto, Canada
C. O. Dustin, Springfield, Mass.	Howard Strong, Minneapolis, Minn.
Mrs. Charles Farwell Edson, Los Angeles, Cal.	A. Leo Weil, Pittsburgh, Pa.
Rev. William G. Eliot, Jr., Portland, Ore.	Henry M. Waite, Dayton, Ohio
William Dudley Foulke, Richmond, Ind.	Thomas Raeburn White, Philadelphia, Pa.
Charles J. France, Seattle, Wash.	James H. Wolfe, Salt Lake City, Utah.
Clarence L. Harper, Philadelphia, Pa.	H. A. Toulmin, Jr., Dayton, Ohio
Albert Bushnell Hart, Cambridge, Mass.	

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City Managers' Association

Seventeen city managers discussed the ideals and practical problems of their new profession at the second annual convention of the City Managers' Association, held in Dayton, November 15-17. Various municipal problems were presented in a series of carefully prepared papers, followed by discussions from the floor. Perhaps the most stimulating feature of the program was the "round table," comprising reports of actual accomplishments from the city manager cities. In addition to such a report from each manager present, statements were submitted by letter from several who were unable to attend.

The officers elected were: President, Henry M. Waite, Dayton, Ohio; Vice-President, M. H. Hardin, Amarillo, Tex.; Secretary-Treasurer, Ossian E. Carr, Cadillac, Mich. The next annual meeting will probably be held during the same week and at the same place as the National Municipal League, as was done so successfully at the Dayton meeting.

✦ ✦

Texas Town and City Plan Ass'n

The Texas Town and City Plan Association is the name of an organization perfected at Dallas on October 30 by representatives of commercial clubs from various cities of Texas. Dr. O. C. Ahrls, Chairman of the City Plan Committee of Sherman, was elected President, and J. E. Surratt, Secretary of the Sherman Chamber of Commerce, was elected Secretary.



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K. K. Hooper, of *The Dallas News*, and J. R. Babcock, Secretary of the Dallas Chamber of Commerce and Manufacturers' Association, made brief addresses. President Ahrls said that the propaganda conducted by *The News* had caused the Sherman Chamber of Commerce to send out the call for the organization meeting.

The object of the new organization will be to promote the adoption of sane methods of city planning in the municipalities throughout the state.

+ +

Ohio Municipal League

The fifth annual meeting of the Ohio Municipal League, held in Dayton on November 17, was devoted to the problem; still pressing for Ohio cities, of city finances. The papers read and discussed included:

"Facts about City Revenues and Expenditures." C. E. Rightor, Director, Dayton Bureau of Municipal Research.

"Should the Smith One Per Cent Law be Repealed, or Should New Sources of Revenue Other than Increased Taxes on Property be Sought?" W. T. Donaldson, Assistant Budget Commissioner, State of Ohio.

"A Plan of Action for the Ensuing Year to Secure Statutory Reform of the Tax System." Bascom Little, President, Cleveland Chamber of Commerce.

A committee was created for the purpose of devising and conducting a campaign of education for tax reform, to be secured either through the popular initiative in 1916 or from the Legislature of 1917. The officers elected were:

President—Stewart L. Tatum, Springfield
 Secretary-Treasurer—F. W. Coker, Ohio State University, Columbus
 First Vice-President—Henry M. Waite, City Manager, Dayton
 Second Vice-President—Harry L. Davis, Mayor-elect of Cleveland
 Third Vice-President—George W. Harris, Cincinnati
 Fourth Vice-President—H. S. Holton, Columbus
 Executive Board—Mayor Newton D. Baker, of Cleveland; R. T. Bailey, Kent; Miss Rose Moriarty, Elyria; Judge John R. Cassidy, Bellefontaine; Mayor Charles A. Stolberg, Canton; Mayor-elect Charles F. Milroy, Toledo.

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Association of Urban Universities

At the second annual meeting of the Association of Urban Universities, held in Cincinnati, November 15-17, President Sidney E. Mezes, of the College of the City of New York, was elected President; Prof. Augustus R. Hatton, of Western Reserve University, Cleveland, Vice-President; and Prof. Fred B. Robinson, of the College of the City of New York, Secretary-Treasurer. The next annual convention will be held in New York City.

The object of the Association is to promote coöperation between the universities and colleges situated in cities and the governments and administrative agencies of these cities.

City Planning Exhibition and Conference in Boston

"A Metropolitan City Planning Exhibition for City and Town Advance" was held in Boston November 12 to 20. This exhibition was arranged by the Council of Fifty, representing civic and social organizations interested in an adequate and practical plan for the development of the Boston District by civic foresight. The exhibition was held in the new east wing of the State House. It comprised the American City Bureau's Exhibition of American and Foreign City Planning, supplemented by much local material. A series of public meetings was held, many of them illustrated by motion and stereopticon pictures.

On the opening day of the exhibition there was held the Third Massachusetts City and Town Planning Conference. This meeting of the local planning boards from the many cities throughout the state was arranged by the Homestead Commission and resulted in the formation of the Massachusetts Federation of City and Town Planning Boards.

The total attendance at the exhibition is estimated at 50,000. A campaign of education on city planning was conducted simultaneously in the public schools and the churches, November 14 being made "City Planning Sunday."

The Committee of Arrangements for the Exhibition comprised: Herbert J. Kellaway, Chairman; Ephraim Harrington, Secretary; Miss J. A. Bruorton, Daniel A. MacKay, Patrick F. O'Keefe, Arthur A. Shurtleff, John J. Walsh, and chairman of Executive Committee W. R. Greeley, *ex officio*; E. B. Mero, Executive Secretary.

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League of Kansas Municipalities

The recently elected officers of the League of Kansas Municipalities are as follows:

President—W. L. Porter, Commissioner of Parks and Public Property, Topeka.
 Vice-President—R. J. Hopkins, City Attorney, Garden City
 Secretary—C. H. Talbot, Lawrence.
 Trustees—R. W. Hemphill, Mayor, Norton; J. E. Howard, Commissioner of Water and Light, Wichita; C. A. Stout, Commissioner of Finance, Coffeyville.

The resolutions adopted at the League's convention, which was held at Hutchinson, October 13-15, favored municipal home rule and "the adoption of an honestly drawn and workable initiative and referendum amendment to the state constitution." The 1916 convention will be held in Independence, October 12-14.

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League of Texas Municipalities

Sanitation and public utilities were the principal topics of discussion at the third annual convention of the League of Texas Municipalities, held November 11 and 12 at Greenville, Texas, with the largest attendance of the League's history; and the greatest common need of the cities, as expressed by the officials present, was the need of civic education of their citizens to support the improvements which the officials are ready and anxious to make.

A paper by Dr. B. F. Arnold, health officer of Greenville, and addresses by Dr. W. B. Collins, state health officer, V. M. Ehlers, state sanitary engineer, and Charles Saville, city sanitarian of Dallas, were followed by a stereopticon lecture on sewage disposal by R. E. McDonnell, consulting engineer, of Kansas City, Mo. Prof. J. M. Bryant, public utility expert from the University of Texas, read a paper entitled "Rates for Public Utility Service," which brought forth long and animated discussion.

Other features of the program were papers on "Street Maintenance," by A. D. Duck, city engineer of Greenville; "City Planning," by Mayors Ed. H. McCuiston, of Paris, and J. B. Marmion, of Houston Heights; "Taxation," by Tax Commissioner J. J. Pastoriza, of Houston; and "Legal Powers of Cities under the Home Rule Enabling Act," prepared by Dr. Herman G. James, of the University of Texas, and read by Edward T. Paxton, of that institution.

The entertainment on the part of the city of Greenville included an old-fashioned chicken barbecue.

Hillsboro was selected as the meeting place for the 1916 convention, and the following officers were elected:

President—Mayor Ed. H. McCuiston, Paris
Vice-Presidents—Mayor J. B. Marmion, Houston Heights; City Attorney C. F. O'Donnell, Dallas; Mayor Wm. H. Knight, Hillsboro

Dr. Herman G. James, Director of the Bureau of Municipal Research and Reference, of the University of Texas, continues as Secretary-Treasurer of the League.

Municipal and Civic Publications

Copies may be ordered of THE AMERICAN CITY, with the exception of Government publications and those indicated as free, which should be ordered direct from the offices publishing them

JAMES, HERMAN G., J. D., Ph. D., Associate Professor of Government and Director of the Bureau of Municipal Research and Reference, University of Texas.

A Handbook of Civic Improvement. 1915. 119 pp. Paper, \$1.00

Aiming to show the average citizen and city official what is to be expected of the city government, this concise handbook orientates the reader from the start by a sharp differentiation of municipal functions as opposed to municipal organization. These functions are, primarily, Public Health, Safety, Education, and Morals, and Social Welfare and City Planning, and the book explains in each case how proper execution results in the achievement of a broader and more significant civic life. As the social survey has proved an immediate practical means to the attaining of this ideal, the book has been equipped with question sheets at the end of each chapter, which may be used as the basis of a city survey in the particular field with which the chapter is concerned. In this manner the book may be found of use to civic organizations and to college classes in municipal science. A select bibliography of works devoted to the different municipal functions is included in the volume.

ROMAN, FREDERICK WILLIAM, Ph. D. (Berlin), Professor of Economics in Syracuse University.

The Industrial and Commercial Schools of the United States and Germany: A Comparative Study. 1915. 382 pp. \$1.50

The author traces the chief characteristics of German and American schools, with special reference to the preparation that children secure for commercial work, emphasizing certain facts, ideals and conditions obvious in both countries. Considerable space is devoted to the history and development of industrial and

commercial schools throughout the states of the German Empire. The same careful treatment is accorded American trade schools, with special attention to endowed schools, such as Pratt Institute and the New York Trade School. State-aided schools, private industrial schools and Christian association organizations are considered also, as well as such typically American institutions as business colleges and correspondence schools. In the last chapter is discussed the importance attached to habits and morals in industrial education schemes, with a comparison of the conditions in the two countries. The author finds that for the German teachers "the moral problem is quite outside the whole school organization" and that in truth "they [the German teachers] argue that education does not improve morals, but gives power for the exercise of a more refined immorality." From this fact it is concluded that, although Americans undoubtedly "can learn far more from Germany regarding industrial and commercial schools than the Germans can learn from us," nevertheless, when we consider the high social tone in America, we recognize that "German industrial and commercial school development could in turn learn much from America."

DAVIS, RAYMOND E., C. E., Instructor in Civil Engineering, University of Illinois, Member Society for Promotion of Engineering Education.

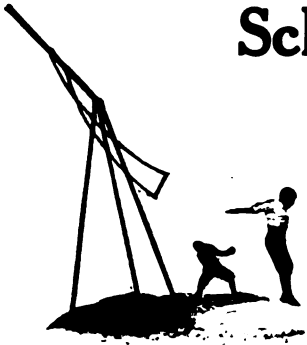
Manual of Surveying for Field and Office. 1915. 395 pp. Photographs, diagrams, charts and tables. \$2.50

This book is a manual of the practice of surveying, for the use of civil engineering students in their preparation for field and office exercises in conjunction with a treatise on surveying, or for use alone. . . . The preface informs us that the aim . . . has been to provide an efficient means of teaching students the proper procedure in making surveys, and the proper methods of computing and mapping." The first chapter deals

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with general instructions for field and office work and emphasizes the more difficult and important parts of surveying, such as note keeping, precision of measurements, consistent accuracy, and efficient methods of computing. The rest of the book attempts to progressively build up the practice of surveying from elementary work with tape to complete topographic surveys. Special features of the volume are: convenient size for carrying in coat pocket; book is complete in itself so that there is not need to refer to other works; simple formulas for the determination of latitude, longitude and azimuth; description of instruments employed; numerous cross references, etc.

AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE.

Public Budgets. (Vol. LXII, November, 1915; Whole No. 151, of The Annals of the American Academy of Political and Social Science.) viii + 324 pp. \$1.00

This issue of The Annals, edited by Prof. A. R. Hatton, of Western Reserve University, contains the following papers: "Budget Making and the Work of Government," by Henry Jones Ford; "Evolution of the Budget Idea in the United States," by Frederick A. Cleveland; "The Budget and the Legislature," by Rufus E. Miles; "The Proper Function of the State Budget," by S. Gale Lowrie; "The Budgetary Provisions of the New York Constitution," by Charles A. Beard; "California's State Budget," by John Francis Neylan; "The Illinois Budget," by Finley F. Bell; "Budget Methods in Illinois," by John A. Fairlie; "State Budget Making in Ohio," by W. O. Heffernan; "Financial Administration of the Commonwealth of Massachusetts," by Ernest H. Maling; "Taxation and the Municipal Budget," by Milton E. Loomis; "Sources of Revenue," by Herbert S. Swan; "Accounting Basis of Budgetary Procedure," by Will B. Hadley; "Unit Costs in Recreational Facilities," by Paul T. Beisser; "Some Suggestions for Preparing a Budget Exhibit," by J. Harold Braddock; "Budgetary Procedure Under the Manager Form of City Government," by Arch M. Mandel; "The Budget as an Administrative Program," by Henry Brûère; "The German Municipal Budget and Its Relation to the General Government," by Karl F. Geiser; "The Budget Procedure of English and French Cities," by D. C. Baldwin; "The Movement for Improved Financing and Accounting Practice in Toronto," by Horace L. Brittain; "County Budgets and Their Construction," by Otho G. Cartwright; "Budget Making for Small Cities," by Lent D. Upson; "The Preparation of Estimates and the Formulation of the Budget—The New York City Method," by Tilden Adamson; "Budget Making in Cleveland," by Mayo Fesler; "Budget Making in Chicago," by Charles E. Merriam; "Select List of References in National, State, County, and Municipal Budgets in the United States," by Harry A. Rider. The volume closes with 23 pages of book reviews, an index and a cumulative index.

WATUPPA PONDS AND QUEQUECHAN RIVER COMMISSION, City of Fall River, Mass.

Report of the Watuppa Ponds and Quequechan River Commission to the City Council, City of Fall River, together with the Report of Fay, Spofford and Thorndike, Consulting Engineers. September, 1915. 248 pp. Special sections of photographs, charts and maps. (Application should be made to Fay, Spofford & Thorndike, Boston.)

The Watuppa Ponds and Quequechan River Commission has recently issued this report, by Fay, Spofford & Thorndike, of Boston, dealing with the proposed development scheme for the city of Fall River. The engineering features include a three-story conduit for carrying hot discharge and cool condensing water for the mills, in addition to a system of surface drainage. A common cooling pond is designed for all the mills along the river. The civic problems involved include a new sewerage system, the abatement of nuisances along the river, the conservation and control of water, and other items affecting the public welfare. The estimated cost of the work is about \$3,000,000, but it is thought that the sale of the 146 acres of land which will be reclaimed should reduce this figure by at least one-third.

BROWN, EDWARD F., Executive Secretary, New York School Lunch Committee, Association for Improvement of the Condition of the Poor.

Health Aspects of School Lunches. (New York City Health Department, Reprint Series No. 26, April, 1915.) 16 pp. (Order from New York Department of Health.) Free

CHICAGO CIVIL SERVICE COMMISSION.

Twentieth Annual Report—Year 1914. 1915. 114 pp. (Order from Commission.) Free

JULIAN, JULIAN, B. E., Borough Surveyor, Cambridge.

An Introduction to Town Planning. A Handbook Dealing with the Principles of the Subject and a consideration of the Problems Involved, Powers of Local Authorities, etc. 149 pp. Diagrams, Plans and Appendices on Garden Cities and Garden Suburbs, Schedule of Town Planning Act, etc. 1914. \$1.75

Until the passing of the Town Planning Act of 1909 the English local authorities "had been powerless to control the character of a town's growth, or even to decide the direction of a new street; while a landowner who might wish to lay out his estate on healthy, convenient and pleasant lines might find his schemes thwarted and his estate spoiled by the action of a neighboring landowner with other and perhaps less beneficent ideas." Under the new régime there are opportunities for many persons to confer in regard to the development of a town so that a scheme may be evolved for regulating its future growth. The present work aims to serve and foster the growth of such gatherings, besides dealing with the principles of town planning in a manner of interest to the general reader. After a historical résumé of town planning in ancient and mediaeval times, the book traces the origin of the movement in England. The present-day problem is fully considered; the utility of town planning tours is discussed, and emphasis is laid upon the importance of the practical considerations in the preparation of town plans. The four appendices deal with garden cities and garden suburbs, specific examples of English town planning, programs and resolutions of congresses, and a schedule of the Town Planning Act. The book closes with a consideration of various books and papers on town planning.

LA MOTTE, ELLEN N., R. N., Former Nurse-in-Chief of the Tuberculosis Division, Health Department of Baltimore.

The Tuberculosis Nurse: Her Function and Her Qualification. A Handbook for Practical Workers in the Tuberculosis Campaign. (Introduction by Louis Hamman, M.D., Physician in Charge Phipps Tuberculosis Dispensary, Johns Hopkins University.) 1915. 292 pp. \$1.61

This book is presented to the public—nurses, physicians, social workers, anti-tuberculosis associations and all those engaged in public health work—with two objects in view: "First, to offer a working model by which any community can gain some idea as to how to organize and conduct tuberculosis work; second, to offer conclusions, gained through practical experience, as to the nurse's part in the anti-tuberculosis campaign." Approaching her subject from the point of view of the visiting tuberculosis nurse, the author outlines the daily routine: finding patients, obtaining a diagnosis, disinfecting the house, getting in touch with relieving institutions, with dispensaries and hospitals, etc. Special chapters are devoted to the nurse's relations with the physician, the invalid's family and with the different ministrant institutions. The author believes a wholesale, widespread educational campaign should be prosecuted in order to impress upon people's

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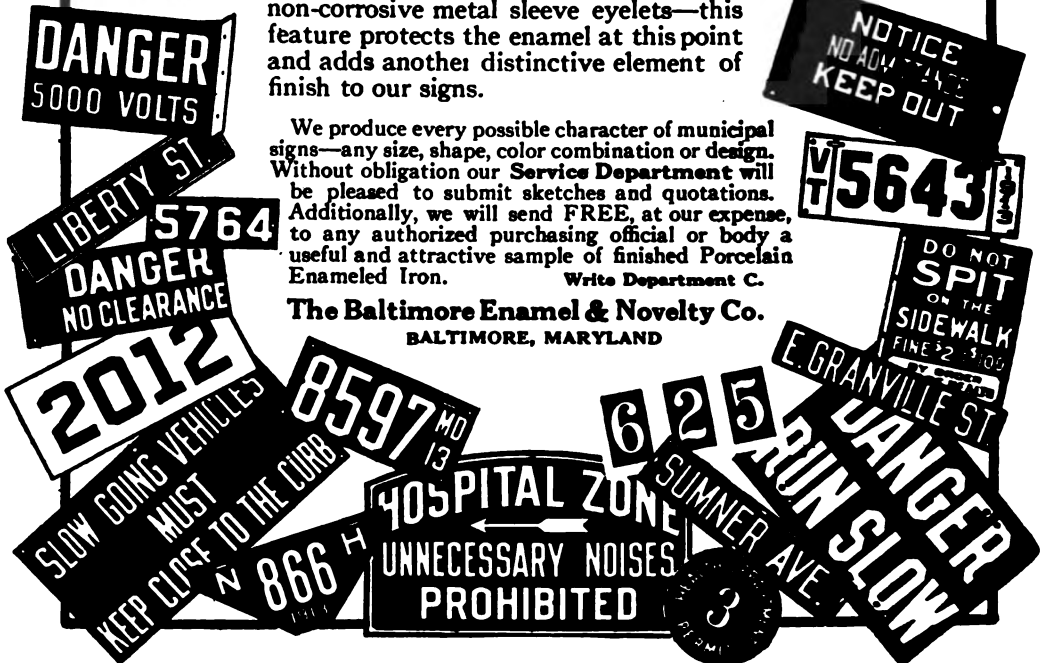
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minds the importance of the three fundamental agencies in the anti-tuberculosis campaign—the hospital, the dispensary and the public health nurse.

AMERICAN JUDICATURE SOCIETY (CHICAGO.)

Second Draft of So Much of the Metropolitan Court Act as Relates to the Selection and Retirement of Judges. Bulletin IV A (Bulletin IV in part revised.) April, 1915. 127 pp. **Free**

DICKERMAN, JUDSON C.

Comparison of Electric Light and Power Rates. Article reprinted from *Power*. Pages 8 to 15 of No. 1, of Vol. 42, July 6, 1915.) Charts and diagrams. Apply to author.

GERHARD, DR. WILLIAM PAUL, C. E., Consulting Engineer for Sanitary Works, New York City.

The Disposal of Household Wastes. Third Edition, Corrected. 1915. Diagrams. 195 pp. (Science Series No. 97.) **50 cents**

A former work entitled "House Drainage and Sanitary Plumbing," published in this series, did not include a discussion of the question of how to dispose of the waste matters of the household, but a volume on the subject was promised for the future. In the present work, portions of which have already appeared in serial form in periodicals, the author fulfills his promise. Among the subjects considered are: the best methods of treatment of the sewage of farm houses, isolated country houses, suburban dwellings, houses in villages and smaller towns, and of larger institutions, such as hospitals, asylums, hotels, prisons, colleges, etc., and of the modes of removal and disposal of garbage, ashes and other solid house refuse.

WEAVER, E. W., Pd. M., Formerly Director of the Vocational Guidance and Industrial Education Bureau of the Buffalo Chamber of Commerce, and

BYLER, J. FRANK, Ph. D., Principal of the George Brooks School, Philadelphia, Pa.

Profitable Vocations for Boys. 1915. Diagrams. 282 pp. **\$1.07**

It is pointed out that while "the industrial situation demands an increase in the vocational content of the school curriculum," any process of reconstruction must necessarily be slow, and meanwhile "the teachers can do much in their classes towards giving a boy about to leave school a general survey of the field of occupations, helping him to form a definite purpose, showing him how to investigate questions which deal with the choice of a career and the best methods of preparation for success along particular lines, directing his attention to the vocational training facilities of the community, showing him how to utilize them and placing before him an index to vocational literature." Ultimately "some definite rules for the scientific management of the individual by the aid of which the prospective worker may be enabled to choose wisely, prepare thoroughly and advance himself rapidly" will be formulated. Already these rules are being worked upon and the right principles are being followed by members of a new profession—the social engineer. Forty-four short, compact chapters treat further of this subject, besides giving in detail the nature and functions of a large number of professions, trades and occupations. Adopting the prophecy of Roger W. Babson that "the crowning work of an educational system will be vocational guidance," the book quotes him further to the effect that: "Some day the schools of the nation will be organized into a great reporting bureau on employment opportunities and trade conditions, directing the youth of the nation—so far as their qualifications warrant—into the lines of work which then offer the greatest opportunity."

UNITED STATES PUBLIC HEALTH SERVICE, Rupert Blue, Surgeon General.
Municipal Ordinances, Rules and Regulations Pertaining to Public Health

Adopted During 1913 by Cities of the United States Having a Population of Over 10,000 in 1910. (Reprint No. 230 from Public Health Reports, January 9, 1914, to October 2, 1914, inclusive.) 1915. 455 pp. **50 cents**

MASSACHUSETTS HOMESTEAD COMMISSION.

Second Annual Report of the Homestead Commission. 1914. (Public Document No. 103.) 1915. 144 pp. Tables and diagrams. **Free**

POE, CLARENCE, Member Organization Committee, National Conference on Marketing and Farm Credits.

How Farmers Co-operate and Double Profits. 1915. 244 pp. **\$1.60**

Actual reports of what has been done and is being done, and stories based on first-hand investigations, make this work a practical guidebook on the subject of rural coöperation which workers engaged in organizing coöperative enterprises can refer to on any particular point. A list of ten practical ways for starting coöperation in a neighborhood includes: Coöperative buying of fertilizers and foodstuffs, joint ownership of important farm machinery, organized marketing of staple crops, stock ownership in enterprises for the secondary handling of products, coöperative marketing of country produce and live stock, joint purchase and ownership of pure-bred live stock, mutual insurance associations, rural credit associations, coöperative telephone companies, and social-welfare organization and improvement. European progress and experiments along these lines are referred to and given in detail where necessary, as well as the American experience. The book points out that from efficient coöperation every material benefit is to be gained, but, "important as are the dividends in cash, the dividends in brotherhood are greater."

OLMSTED BROTHERS, Landscape Architects, Brookline, Mass.

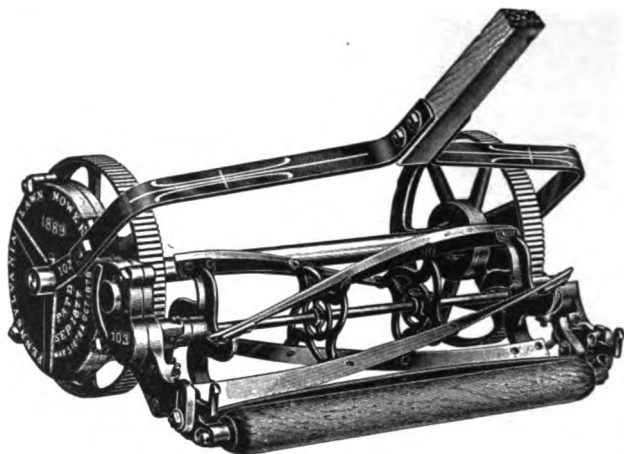
Report of Olmsted Brothers on a Proposed Parkway System for Essex County, New Jersey. (Submitted to the Essex County Park Commission, June 4, 1915.) 84 pp. Map and diagram. (Order from Secretary of the Commission, Newark, N. J.) **Free**

This report was submitted to the Essex County Park Commission because of the need of a general plan for a system of parkways which the commissioners could use when passing upon the desirability of parkway plans brought forward by interested citizens, and also to help them to decide upon a policy of their own. The text develops progressively an extensive scheme for the artistic and practical planning of parkways, roads, driveways, etc., throughout the county, taking into consideration the existing facilities and improvements, and urging that the problem be attacked by the citizens working in close coöperation for the general benefit of all.

SHERMAN, HENRY C., Professor of Food Chemistry, Columbia University.

Food Products. 1915. 594 pp. Photographs, charts, tables and diagrams. **\$2.42**

The general plan of this volume is "to devote a chapter to each important type of food, covering (1) an account of its production and preparation for market, with such brief statistical data as will indicate the relative economic importance of the industry; (2) the proximate composition and general food value; (3) questions of sanitation, inspection, and standards of purity; (4) special characteristics of composition, digestibility, nutritive value and place in the diet." After a discussion of the principal constituents and functions of foods and of food legislation, the book considers the following foods: milk, cheese, eggs, meats, poultry, fish, grain, vegetables, fats and oils, sugars, etc. Lists of references appended to the different chapters will facilitate the extension of the work covered by the text along either chemical, economic, sanitary, or nutritional lines. In the appen-



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dixes are given the rules and regulations for the enforcement of the Food and Drugs Act, food inspection decisions, methods and standards for the production and distribution of certified milk, meat inspection and regulation, and 100-calorie portions tables.

FOGHT, H. W., Specialist in Rural School Practice, United States Bureau of Education.
The Rural School System of Minnesota: A Study in School Efficiency. (Bulletin, 1915, No. 20, Whole No. 647, United States Bureau of Education.) 56 pp. Illustrated.
 20 cents

McCULLOUGH, ERNEST, C. E., Consulting Engineer; Member of the American Society of Civil Engineers.

Practical Surveying for Surveyors' Assistants, Vocational and High Schools. 1915. viii + 401 pp. 229 illustrations, including photographs, maps, charts and tables.
 \$2.00

This book aims to fill the demand for a text-book on the subject, suitable for use in high schools, vocational schools and evening classes, which does not presuppose a high school and college training in advance mathematics. It is intended also "for self-tutored men in the employ of surveyors, who wish to become surveyors." After an introductory chapter embodying some simple geometrical principles, the book, in its seven chapters, considers Chain Surveying, Leveling, Compass Surveying, Trigonometry, Transit Surveying, Surveying Law and Practice and Engineering Surveying. In an appendix the essentials of algebra are explained for students who have not already studied this subject in the high school.

MARY PATTISON, Colonia, N. J.
Principles of Domestic Engineering. 1915. 310 pp.
 \$2.00

It is an indication of the growing interest of women in civic affairs that this book should contain a chapter on "Municipal Housekeeping." In previous chapters Mrs. Pattison dwells on the close relation of the home and its standards to the standards of society as a whole. In the chapter devoted to Municipal Housekeeping she emphasizes the fact that the unit housekeeper in her efforts to realize the best for her home and family is unconsciously establishing standards of municipal living and of municipal housekeeping. But Mrs. Pattison urges, in addition to this unconscious influence, a conscious effort on the part of the homemaker to cooperate in all that tends to make her city the right sort of place for home and children. Mrs. Pattison has written a very readable book that should furnish many valuable suggestions to women interested in better homes and better cities.

PEOPLE'S INSTITUTE, NEW YORK CITY.
Report of the Assistant Director of the People's Institute to the Chairman of the Board of Trustees of the People's Institute Covering the Activities of the Institute from October 1, 1914, to June 1, 1915, Inclusive. 1915. 17 pp. (Order from People's Institute, New York City.)
 Free

STATE BUREAU OF MUNICIPAL INFORMATION OF THE NEW YORK STATE CONFERENCE OF MAYORS AND OTHER CITY OFFICIALS, William P. Capes, Director.

Sterilization of Water by Liquid Chlorine. (Data Compiled by the Bureau to Form Report No. 16.) October 4, 1915. 7 typewritten pages. (Copies supplied only to cities of New York State and a selected mailing list.)

WITHINGTON, ROBERT, Ph. D., Department of English, Indiana University.

A Manual of Pagantry. (Indiana University Bulletin, Vol. XIII, No. 7, June 15, 1915.) 20 pp. Chart.
 Free

STATE BUREAU OF MUNICIPAL INFORMATION OF THE NEW YORK STATE CONFERENCE OF MAYORS AND OTHER CITY OFFICIALS, William P. Capes, Director.

Salaries and Duties of City Clerks in New York State Cities. (Data Compiled by the Bureau to Form Report No. 10.) September 24, 1915. 5 typewritten pages. (Copies supplied only to cities of New York State and a selected mailing list.)

FITZSIMONS, F. W., F. Z. S., F. R. M. S., etc., Director, Port Elizabeth Museum.

The House Fly; A Slayer of Men. 1915. 89 pp. Illustrated.
 35 cents

In the eleven chapters of this little book the author has packed the essential information concerning the life history of the fly. A series of photographic illustrations accompany the text, supplementing the life history with pictures showing the stages of development—egg, larva, chrysalis. Enlarged photographs show the head, eye and proboscis and are especially interesting. The book, which was written for English readers, gives much credit to American insect extermination work, and frequent reference is made to American practice and achievement while urging closer cooperation in England.

MOSES, IRENE E. PHILLIPS, B. L., Graduate of the New York Normal School of Physical Education.

Rhythmic Action Plays and Dances. 1915. 164 pp. Photographs.
 \$1.80

This book contains original games and dances, arranged progressively, to Mother Goose and other action songs for use in the kindergarten, primary school, playground and gymnasium. The aim has been "to select such songs and actions as will give pleasure to the little children who play them" and to furnish "a drill and training which in a pleasurable manner will prepare the small child for the more advanced Folk Dances." The introductory section is followed by a list of rhythmic action plays and dances arranged progressively for teaching, with a glossary and key. The main body of the work is given over to a description of the various movements and dances under such chapter heads as: Walking, Marching, Running; Sliding; Knee, Hip and Ankle Action; Hopping-Hops, Skips and Jigs; Balance Step and Point Step; The Step Hop, etc. Numerous photographs illustrate the different movement phases, and the appropriate music is printed in the text.

SNEDDEN, DAVID, State Commissioner of Education, Boston, Mass.

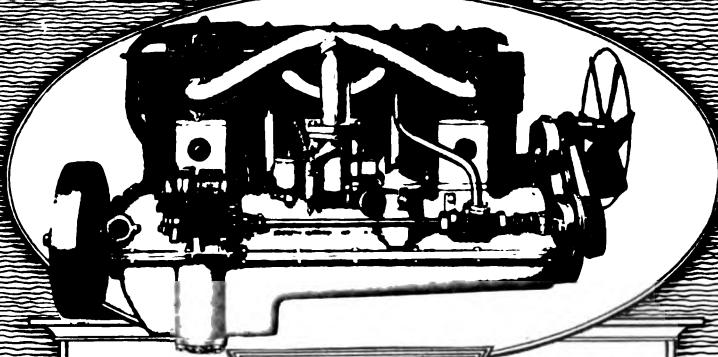
The Pros and Cons of the Gary System. (Pages 115 to 125 of the National Education Association Bulletin, Vol. III, No. 6, Whole No. 14, May, 1915, devoted to the Proceedings of the Department of Superintendence of the Association at the Cincinnati Meeting in February, 1915.)
 25 cents

SUMNER, HELEN L., and HANKS, ETHEL E.

Employment Certificate System, Connecticut. (Publication No. 12 of the United States Children's Bureau. Part I of Industrial Series No. 2, Administration of Child Labor Laws.) 69 pp. Forms and charts.
 10 cents

SWAAB, S. M.

The Fundamental Elements Entering Into the Makeup of the Modern City and a Plea for a Smaller City. (Paper No. 1148 in Proceedings of The Engineers' Club of Philadelphia. Vol. XXXII, No. 2, Whole No. 135. April, 1915, pp. 119 to 169.) Illustrated.
 50 cents



The Van Blerck Motor Company specialize on high speed, high duty Motors for commercial purposes, such as for use in Fire Trucks, Caterpillar Tractors, Electric Lighting Sets, Centrifugal Pumping Sets, Vacuum Cleaning Machinery, Gasoline Electric Cars, etc., concentrating its entire resources, capital, plant, organization, engineering talent and equipment in the production of a standardized article.

The Model 'D' Van Blerck is manufactured in four, six, and eight cylinder units, delivering power as follows:

Model D-4 Four Cylinder 5¼"x6"- 48 to 90 H.P.-700 to 1600 R.P.M.

Model D-6 Six Cylinder 5½"x6"- 70 to 140 H.P.-700 to 1600 R.P.M.

Model D-8 Eight Cylinder 5½"x6"-100 to 185 H.P.-700 to 1600 R.P.M.

Complete technical specifications of these engines are printed in convenient form and will gladly be sent you on receipt of details regarding your actual requirements.

VAN BLERCK MOTOR COMPANY
MONROE, MICHIGAN

CONNELL, WILLIAM H., Chief, Bureau of Highways and Street Cleaning, Philadelphia, Pa.

The Organization, Character of Personnel, Scope of Work and Methods of Operation and Control of a Large Municipal Highway Department. (Pages 439 to 469, Journal of The Franklin Institute, Vol. CLXXIX, No. 4, April, 1915.) Illustrated. 50 cents

DEPARTMENT OF SOCIAL WELFARE, (The Milbank Memorial Fund) of the New York Association for Improving the Condition of the Poor.

Constructive Social Measures: A Review of Two Years' Work. (June, 1915.) Illustrated. Free

This pamphlet describes the permanent and the special activities of the department besides telling something of its organization and ideals. The permanent activities include the Milbank Memorial Bath, Wet-Wash Laundry, Food Supply Store, People's Kitchen, etc. The section on special activities tells of the welfare work with school children: School Lunch Committee, Bureaus of Food Supply and of Public Health and Hygiene, and the Ventilation Commission.

METROPOLITAN LIFE INSURANCE COMPANY, NEW YORK CITY.

Your Rights and Duties Under the Health Laws of New York City. 11 pp. (Order from the Company.) Free

COMAN, KATHARINE, Late Professor of Political Economy, Political and Social Science in Wellesley College.

Unemployment Insurance: A Summary of European Systems. (Prepared for the Committee on Social and Industrial Justice of the Progressive National Service.) 1915. 21 pp. (Order from the Progressive National Service, New York City.) Free

THE CIVIC PRESS.

The American City Pamphlets. Three pamphlets have been issued during the last two months:

Municipal Clinics for School Children. By Edward F. Brown. No. 136. 10 cents.

How a Small Municipality Is Profiting by a City Plan. No. 137. 15 cents.

Precautions to be Used in Securing Successful Bituminous Macadam Pavements. By Philip P. Sharples. No. 138. 15 cents.

Manufacturers' Literature

Available Free of Charge for Readers of THE AMERICAN CITY

Advertisers are invited to submit catalogues or circulars suitable for mention in these columns. THE AMERICAN CITY should always be mentioned when writing for this material.

Road Graders.

The Case No. 1 road grader is described in a catalogue issued by J. I. Case T. M. Company, Inc., 705-755 State Street, Racine, Wis. Seventy years' experience in machinery production has enabled this company to offer improvements in mechanical construction which will interest city and county officials having to do with roads and paving.

Waterworks Valves.

The Coldwell-Wilcox Company, Water Street, Newburgh, N. Y., will send on request a catalogue relative to waterworks valves, which are described as "The kind that don't wear out."

Fencing and Tree Guards for Public Grounds.

Catalogue G of the Wright Wire Company, Worcester, Mass., describes their dignified and substantial fencing for parks, cemeteries, playgrounds, etc., also their rust-proof tree guards, flower-bed guards, trellises, etc.

Meter Boxes and Meter Testing Machines.

Any municipal official interested in water supply can secure an interesting circular entitled "The Latest Ford Story," by addressing the Ford Meter Box Company, Wabash, Ind. Ford meter boxes and meter-testing machinery are widely used by water-works departments, and lists of present users will be sent on application.

Fire and Police Alarm System.

If your municipality is not thoroughly up to date as to its fire and police signal system, the catalogue published by the Gamewell Fire Alarm Telegraph Company, Newton Upper Falls, Mass., will be of interest to you.

Motor Trucks for Municipal Service.

The Packard new type chainless trucks meet every need for the diversified hauling problems of the municipality, and a catalogue relative to the various kinds of municipal public work for which

these auto trucks are being used can be secured by addressing Department L of the Packard Motor Car Company, Detroit, Mich.

Sidewalk, Curb, Gutter and Road Forms.

Bulletin relative to these forms, telling why they are used on over 10,000 contracts. Blaw Steel Construction Company, Department H, Pittsburgh, Pa.

Street Corner Cans.

Catalogue describing automatic closing cans for keeping refuse out of sight on streets and in parks. Steel Basket Company, 708 South Third Street, Cedar Rapids, Ia.

Mexpet.

This is the title of an interesting monthly publication relative to the products of the Mexican Petroleum Company, Ltd., 52 Broadway, New York City, which will be sent free of charge to anyone interested in materials for paving and road-building work.

Street Signs and Safety Signs.

The importance of the proper distribution of "Danger" and "Safety-First" signs by municipalities can hardly be overestimated. The illustrated printed matter of the Stonehouse Steel Sign Company, Clayton Building, Denver, Col., shows a most interesting variety of "Safety-First" signs for every purpose.

Garbage Cans and Street Trash Cans.

The American Can Company, of New York, will be pleased to furnish any city or park department with estimates and illustrated printed matter relative to garbage and trash containers of all kinds.

Water Meter Specifications.

The Badger Meter Company, of Milwaukee, Wis., has published specifications relative to its disk meters, turbine meters and compound meters, which will be sent free of charge to anyone interested.

High efficiency street series lamps have simplified the problems of park and boulevard lighting and the manufacturers have met the situation with a large variety of designs. Many of these are distinctly original, both as to the ornamentation on the post and the shape of the diffusing globe on top.

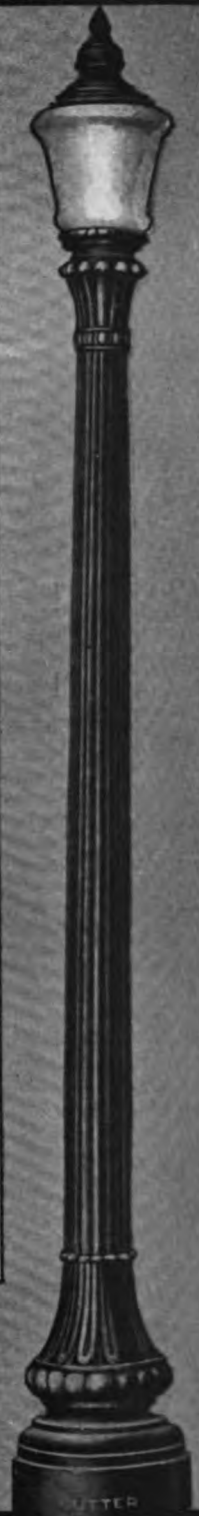
These new lamps have operating characteristics somewhat different from the old style tungsten lamps. The lamp bulb, instead of being a vacuum, is filled with nitrogen gas; this makes it possible to burn the filament at a higher temperature, producing light of superior quality with lower consumption of electrical energy. In the large sizes these new lamps must be protected from the rain and sleet by an outer globe.

— do you believe this?

There are hundreds of cities and towns that have solved the park and boulevard lighting problems. The Type C Mazda Lamp has helped them. They have found it to be the most efficient as well as the most economical method.

Surely you want to be in this class of progressive cities. Let us assist you in planning a white way or some extension work. We are at your service. *Write for information.*

George Cutter Co.
South Bend, Ind.



Engineering Instruments.

Catalogue No. 4, issued by the Buff & Buff Company, Jamaica Plain, Boston, Mass., illustrates and describes some of the latest designs of high-grade engineering instruments which are manufactured by this company for the use of civil engineers.

Sanitary Towels.

Any reader of THE AMERICAN CITY interested in protecting the health of his city will find the booklet entitled "Public Service" well worth reading. It is distributed free of charge by the National Paper Products Company, 105 Canal Street, Carthage, N. Y., makers of sanitary towels and towel containers.

Concrete Park Benches.

Park departments which are looking for a very unique and artistic park bench can secure an illustrated circular regarding such a bench by writing to the Art Concrete Works, Pasadena, Cal.

Monolights for Street Lighting.

A letter to the King Foundry Company, St. Joseph, Mo., will secure for anyone interested in street lighting a copy of a new booklet relative to the attractive street-lighting standards furnished by this company.

Good Pavements and How to Get Them.

An illustrated 16-page pamphlet stating the merits of sheet asphalt pavements, and giving testimonials from places in which such pavements are in use. The Barber Asphalt Paving Company, Philadelphia, Pa.

Be Strong—for Health, Success and Wealth.

A pamphlet of 8 pages describing the Giant playground apparatus for boys and girls, and picturing it in use. Giant Manufacturing Company, Council Bluffs, Iowa.

Fire Department Ladders.

A booklet of 24 pages showing by some striking illustrations and by careful description the material used in the manufacture of this company's fire ladders and the methods employed to insure the strength of the product. James Boyd & Brother, Incorporated, Philadelphia, Pa.

Power Sprayers for Trees and Shrubs.

Catalogue No. 30, issued by the Bean Spray Pump Company, 224 West Julian Street, San José, Cal., describes a complete list of power sprayers for use in parks, cemeteries, streets, public grounds, etc., for keeping trees and shrubs in healthy condition through the removal of insect pests.

Street and Road Machinery.

Municipal and county officials who are considering the purchase of additional equipment of this kind for the coming season will find the catalogue of the Good Roads Machinery Company, of Kennett Square, Pa., of particular interest.

Fire Department Apparatus and Supplies.

The catalogue of the Anderson Coupling & Fire Supply Company, of Kansas City, Kan., relating to automobile fire apparatus and miscellaneous fire department supplies, may be secured for the asking.

Resurfacing of Old Roads.

Illustrated booklet containing an address by Wm. D. Uhler, Chief Engineer, State Highway Department of Pennsylvania, before the Pan-American Road Congress, at Oakland, Cal., September 16, 1915. The Atlantic Refining Company, Philadelphia, Pa.

Nursery Trade Price List.

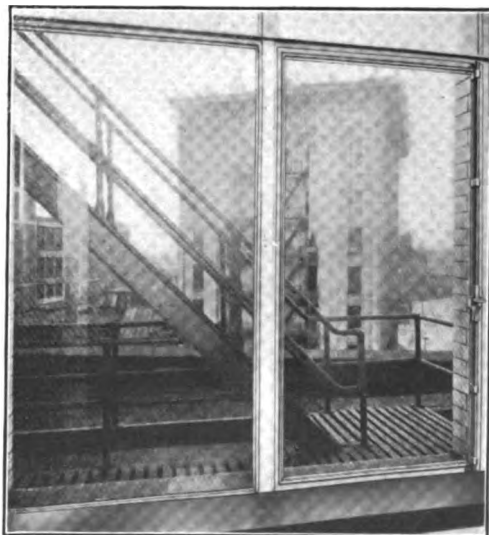
The Fall-Spring (1915-1916) trade price list of choice young nursery-grown ornamental trees, vines, perennial plants and bulbs. A six-page folder. Atlantic Nursery Company, Berlin, Md.

Methods, Materials and Appliances

News from Engineers, Manufacturers and Supply Houses

To Reach the Fire Escape

The accompanying picture of a fire-escape casement door is included in the publication on "United Steel Sash" issued by the Trussed Concrete Steel Company, of Youngstown, Ohio. The distinctive feature of this door is that, while it has the finished and handsome appearance of a fine type of casement, it is built on modern ideas of fireproof construction. The door is provided with a panic bolt and handle, so that even under the worst fire conditions it can be opened immediately by a pressure on the projecting lever. It cannot be locked, thus obviating any possibility of the occupants of the building becoming imprisoned in trying to reach the fire escape. The necessity of providing a panic-bolt door of this nature in connection with fire escapes is readily understood, as the finest fire escape in the world is of no value when it is not accessible in case of actual fire. It too often happens that the occupants of a burning building become panic stricken, and, if the door is equipped with a lock, the key may not be available; it is therefore of first importance that the door should open almost automatically.



FIRE-ESCAPE CASEMENT DOOR WITH PANIC BOLT, WOODWARD BUILDING, DETROIT

THE AMERICAN CITY

MOTT LAMP POSTS



FAMOUS BOARDWALK, ATLANTIC CITY, LIGHTED WITH MOTT LAMP POSTS

WRITE FOR CATALOGUES AND PRICE LISTS
OVER ONE THOUSAND DESIGNS

FOUNTAINS

DISPLAY
FOUNTAINS
FOR
PUBLIC SQUARES
PARKS, ETC.

MANHOLE
FRAMES
GRATINGS

TREE GUARDS

WRITE FOR
CATALOGUES



FOUNTAIN IN BEDFORD AVE., BROOKLYN, N.Y.

DRINKING
FOUNTAINS

WITH
SANITARY
CUPS, ETC.

SETTEES

VASES

RAILINGS

STREET
SIGN POSTS

THE J. L. MOTT IRON WORKS

FIFTH AVENUE AND SEVENTEENTH STREET
NEW YORK CITY

New Novalux Units

The Form 6 units are the latest addition to the comprehensive line of Novalux units made by the General Electric Company for the operation of the high candle-power Mazda C lamps. They have excellent light-distributing characteristics, giving the maximum light at the 10-degree angle.

These new units are made in two different general types, one for mounting on brackets or permanent fastening to mast arms, while the other is for the regular method of suspension. These two types are termed the bracket and pendent types, respectively.

The bracket type shown herewith is equipped with the same insulator that is used with the



BRACKET TYPE OF FORM 6 NOVALUX

G. E. series incandescent brackets. This interposes an insulation between the unit and the pole which will withstand voltage strains up to 25,000 volts. This insulator has great mechanical, as well as electrical, strength, because it is composed of only one massive porcelain. In addition to this important "Safety First" feature, it is adapted for either open or concealed wiring of the unit.

The handsome appearance of the Form 6 units is worthy of more than passing notice. Substantial, simple, but with harmonious lines, they will improve the appearance of any street where they are installed.

One of the important features of this unit is the method of ventilation, which gives a liberal supply of cooling air, but absolutely prevents the entrance of insects.

Meeting a Powerful Test

The city of New York recently made tests of 30,000 feet of fire hose furnished by the Empire Rubber & Tire Company, of Trenton, N. J. After testing the required number of sections, picked at random, to 600 pounds pressure, the city tried the utmost resisting powers of one section. This section withstood a pressure of 1,000 pounds, the limit of the gauge, without bursting. This is the second time that Empire fire hose has successfully met a test of 1,000 pounds pressure conducted by the New York Fire Department, the first test being on October 19, 1913. The second test was particularly gratifying to the Empire Company, as when the first record was made it was the opinion of some people that it was merely an accident which could not be repeated. The real merit of the hose appears to be proved by this second trial of a section picked at random from a delivery of 30,000 feet. The tests were conducted by Chief Demarest, of the Department of Supplies and Repairs, who is in charge of all tests of apparatus for the Department. Commissioner Weeks, representing the Fire Department, and Mr. Gaynor, representing the Comptroller's office, were also present throughout the tests.

♦ ♦

Motor Trucks for All Kinds of Service

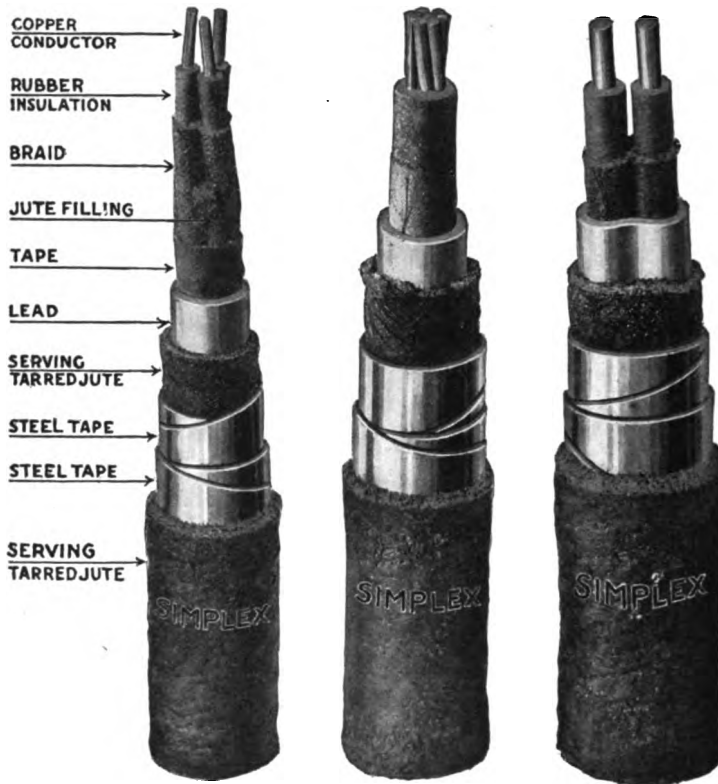
Like Kelly Does, the periodical published by The Kelly-Springfield Motor Truck Company, of Springfield, Ohio, contains, in its November issue, some particularly interesting photographs of motor apparatus for municipal service. Two of these pictures show the Kinney - Kelly high - pressure combination flusher and sprinkler in operation in Albany Street, Boston. In one, a spray 60 feet wide is shown, the machine being able to throw a spray of any width between 8 and 60 feet. The other of the two photographs shows the flusher in action, cleaning a stretch 20 feet wide, with a pressure of 50 pounds. The tank of this machine has a capacity of 1,200 gallons. Another page features motor fire apparatus, and there are illustrations of a number of other types of Kelly motor equipment for commercial use, together with information about the service obtained from this company's trucks.

♦ ♦

A Cry for Help

The Federal siren is an electrically-operated sound signaling device for cities, small towns and villages, factories, etc., and a fog signal for lighthouses, fireboats, etc. The double-head type shown in the illustration is, on account of its sound power, designed for large towns and cities. This is the largest siren made by this company. Both cylinders in the sounding mechanism revolve, and the effect is to double the volume of sound adapted for use where a signal apparatus of greater penetration than the single head is required. The approximate penetration is three miles. This siren gives a distinctive call for help—a fire emergency or danger signal that is instantly

SIMPLEX STEEL TAPED CABLES



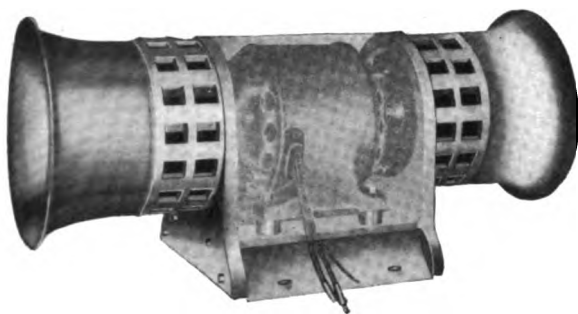
BEST
because
TWO STEEL TAPES
are wound on spirally in
OPPOSITE DIRECTIONS

SIMPLEX WIRE & CABLE CO

MANUFACTURERS

201 DEVONSHIRE ST. BOSTON
CHICAGO SAN FRANCISCO

1515



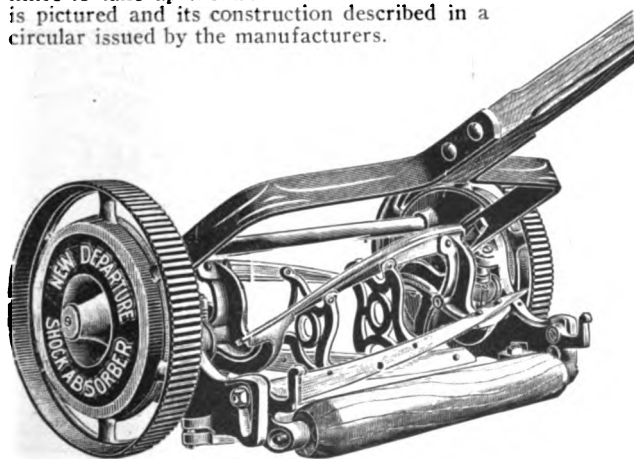
DOUBLE-HEAD FIRE-ALARM SIREN

recognized as such. When used as a town alarm it should be elevated, in the center of town, and protected against the weather by a roof so arranged as not to hinder the penetration of sound. The signal is manufactured by the Federal Sign System, of Chicago.

+ +

A "Fool-Proof" Lawn Mower

Park and cemetery superintendents will be interested in the lawn mower here illustrated. It is made by the Supplee-Biddle Hardware Company, of Philadelphia, and is said to be of such simple construction that an ordinary day laborer has no difficulty in using the machine and keeping it in fine condition. There is a heavy spring directly under the cylinder bearing, which acts as a sort of buffer or shock-absorber between the cylinder and the dead knife. This knife is bolted rigidly to the frame; the cylinder bearings are universal, and the adjustment for wear is taken up by means of a single set screw immediately over the cylinder journal, held tight by a lock nut. There is no fine adjustment to get out of order, and the cylinder is bound to be in alignment with the lower knife. A simple turn of the set screw drives the cylinder closer to the dead knife to take up the wear. This lawn mower is pictured and its construction described in a circular issued by the manufacturers.



A SHOCK-ABSORBER LAWN MOWER

The Poison Risk

The record of cases of children's illness caused by the use of poisonous fly destroyers shows for the months of July and August, 1915, 22 cases of poisoning, of which 8 were fatal and 14 non-fatal or uncertain. Illinois had the highest number of cases—six; Indiana, Iowa, Massachusetts, Michigan and Pennsylvania each had two cases, and there was one case in each of the following states: Georgia, Missouri, Nebraska, New York, Oklahoma and Ohio. Of

the non-fatal or uncertain cases, the newspaper reports show that recovery was doubtful in a number of cases, the children being still dangerously ill at the time the newspaper articles appeared.

+ +

Shower Mixers in the Playground

One of the most important features of the playground is that which offers the facilities of well-equipped shower baths to all who care to use them. To get the most satisfactory results from the shower bath equipment, two things are indispensable: namely, capacity to handle crowds rapidly, and perfect safety against scalding for the bather. Showers fitted with the ordinary hot and cold water valves to be operated by the bather are wasteful of time, and steam, or hot water, to say nothing of the ever-present danger of scalding by having the water too hot, or accidentally moving the hot water valve while bathing.

All the old inconveniences are said to be removed by the installation of the Ingham shower mixer, manufactured by the Imperial Brass Manufacturing Company of Chicago. Many cities and towns are equipping their playground bathhouses with this mixer; the city of Chicago alone is installing large numbers in playgrounds and neighborhood buildings.

The simplicity of construction and the "foolproof" operation of this mixer recommend it for use where a large and varied number of people have access to it. It gives the bather instant control over the water. No time or hot water is wasted in adjustment of temperature. The mixer is provided with a single handle and an indicator. The various temperatures available are plainly marked upon a dial, so that no mistake can be made. Thorough mixing takes place instantly in the chamber. The bather has only to give the handle a turn to obtain the desired temperature. Danger of scalding is absolutely eliminated, as the temperature remains fixed until the shower is turned off. The bather cannot raise the temperature beyond a certain predetermined point.



Suit the Fence to the Need

Protection is of prime importance in a fence for playgrounds and public places, but dignity, fine appearance, strength and long life are all essentials. Above is shown one of the many styles of



Fence for Schools, Playgrounds, Public Buildings, Parks and Large Enclosures

Made of large, substantial wires galvanized after weaving. This galvanizing is much heavier than in ordinary fences, so there is no chance for rust to get a hold. The heavy horizontal and upright wires are so clamped together that they do not slip and cannot be twisted out of position. We also make *Excelsior Rust Proof Lawn and Flower Bed Guards, Tree Guards, Trellises and Trellis Arches*. Write for illustrated Catalog G.

WRIGHT WIRE COMPANY, Worcester, Mass.

MORRIS

ORNAMENTAL
STREET LIGHTING
STANDARDS

Design No.
3025-1 (A)
for Nitrogen
Lamp.



— *Cast Iron* —
giving utmost satisfac-
tion in hundreds of
cities. * * * * * *Over*
1,000 Designs.

Expert advice on out-
door lighting problems.
Ask for catalogue and
list of installations.

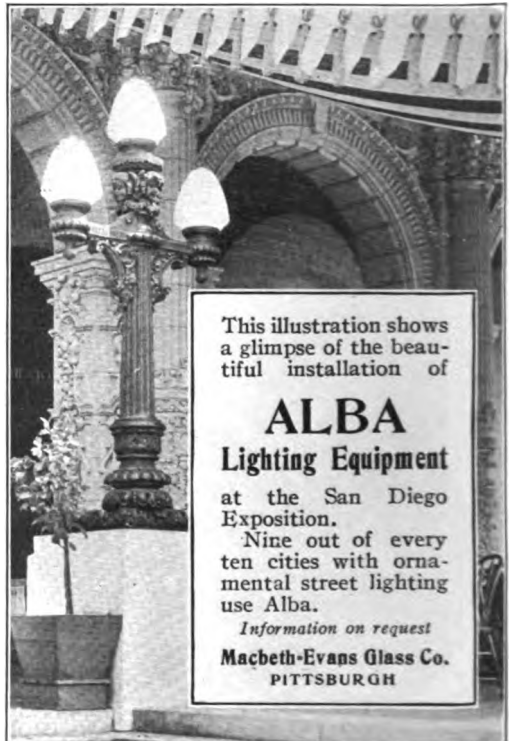
ELMER P. MORRIS, Sales Agent
136 LIBERTY STREET, NEW YORK

Representing

CENTRAL FOUNDRY COMPANY

Operators and Sole Owners of Foundries at

Ank, N. J. Holt, Ala. Bessemer, Ala. Medina, N. Y.
Vincennes, Ind. Baltimore, Md. M-66



This illustration shows
a glimpse of the beau-
tiful installation of

ALBA
Lighting Equipment

at the San Diego
Exposition.

Nine out of every
ten cities with orna-
mental street lighting
use Alba.

Information on request
Macbeth-Evans Glass Co.
PITTSBURGH

When writing to Advertisers please mention **THE AMERICAN CITY.**

This is a sure protection against damage suits. The time required for bathing is reduced to the minimum, which means that the number of bathers that can be accommodated is tremendously increased.

The mixer is adjusted when first installed, and after that no further adjustments are necessary. It is automatic, noiseless and self-cleaning, and is made in styles to suit both individual and multiple showers.

The company issues an interesting illustrated booklet called "A Good Mixer," which will be sent free to playground officials, architects, or others who seek information upon this subject.

+ +

Supplying Cities with Motor Fire Apparatus

Recent shipments made by the American-La France Fire Engine Company, Inc., of Elmira, N. Y., include combination chemical engine and hose cars for Pelham Manor, Woodmere and Waverly, N. Y., Old Forge, Pa., Rutland, Vt., and London, Ont. Other types of this company's motor fire apparatus have been delivered to Naugatuck, Conn., Dayton,

Ohio, Jersey City, N. J. (which ordered seven first size steam fire engines), and Lancaster, Pa. New orders for combination chemical and hose cars have been placed by Atlantic City, N. J., Amherst, Mass., Glendora and Hermosa, Cal., Red Lodge, Mont., Springfield, Ohio, Brockport and Carthage, N. Y., and Kitanning, Pa., while other pieces of apparatus have been recently ordered by Atlantic City, Dobbs Ferry, N. Y., Mt. Carmel, Pa., and Washington, D. C.

+ +

A Buyers' Reference Work

The 1915 edition of Hendricks' "Commercial Register," with which "The Assistant Buyer" has been incorporated, is devoted to the interests of the architectural, contracting, electrical, engineering, hardware, iron, mechanical, mill, mining, quarrying, railroad, steel and kindred industries. The products of these industries "are listed from the raw material to the finished article, with the concerns handling them from the producer to the consumer." It thus forms a comprehensive annual register of producers, manufacturers, dealers and consumers connected with the above industries, valuable as a buyer's reference work.

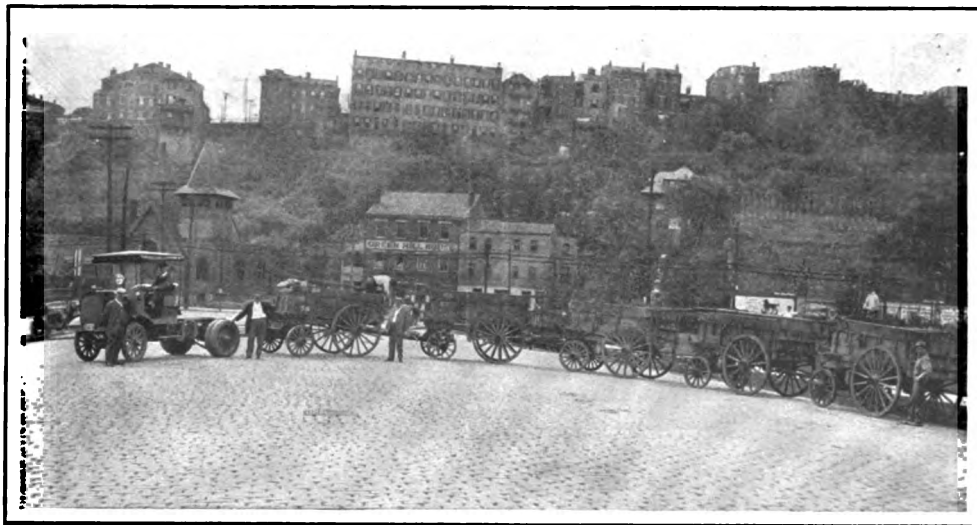
For Contractors and Boards of Public Works

Tractors in Municipal Hauling

The city of Cincinnati, Ohio, recently decided to look into the merits of the gasoline tractor for municipal hauling. Among other things it determined to find out how much tractors could haul, whether several trailers could be handled conveniently, whether the tractor engine was equal to the task of hauling

heavy tonnage up an 8 per cent grade, and whether the tractor brakes could be depended upon to hold back the combined weight of several heavily loaded trailers down an 8 per cent grade.

When preparations for the experiment were completed, a rugged-looking Knox tractor was brought on the scene. The place chosen for the



NO DIFFICULTY IN MAKING TURNS WITH THIS LINE OF TRAILERS

Cyclone Property Protection Fence

For Parks, Private Grounds or Cemeteries

The protection of public and private property from thoughtless people and from viciously reckless people is a problem that baffles the authorities in many communities.

Shrubbery is torn, flowers are plucked, litter is scattered, irregular paths are cut across lawns. Against these and a long list of other abuses which are of common occurrence

CYCLONE PROPERTY PROTECTION FENCE OFFERS MAXIMUM AND PERMANENT PROTECTION

Our fence is built of heavily galvanized wire, closely and evenly spaced, with deeply crimped pickets and cables firmly locked. Five barb wires at top overhang either side, making climbing over it practically impossible.

Our posts are built of tubular steel—the strongest form of post construction—there is no weak side. They support the heavy fabric properly, make the fence durable—resist shock or strain from any direction.

Cyclone Property Protection appeals to you because it is economical—cheaper than wood, for it is weather-proof, fire-proof, repair-proof—gives the grounds a substantially finished appearance.

It is sanitary—does away with the damp, decaying, unsightly fence line; does not obstruct the view; does not harbor trash.

Our engineering department will advise and co-operate with superintendents of parks and estates to solve their fence problems free of charge. We supply construction engineer to superintendent erection at nominal cost.

Illustrated catalog free on request.

CYCLONE FENCE CO., Dept. 107, WAUKEGAN, ILL.

We are the largest manufacturers and recognized leaders in fence construction work. We originate our own patterns and our fences are distinctive in their design, even spacing and strong construction.

For Your Type-C Mazda Lamps

the standards that give you
beauty and grace with *guaranteed* service

UNION METAL LAMP STANDARDS

Not only do "Union" Standards embody the highest type of artistic design and correct construction for highest efficiency, but each standard is backed by a service guarantee.

The Guarantee

"We will replace, at any time within twenty years from the date of erection, any Union Metal pressed steel shaft that fails from any cause whatever (except by wilful, malicious damage) for the nominal sum of Three Dollars (\$3.00) each net F. O. B. our factory, Canton, Ohio."

You can't go wrong in choosing the "Union."

Given HIGHEST Award Panama-Pacific International Exposition

The Union Metal Mfg. Co. Canton, Ohio

Canadian Union Metal, Limited, Galt, Ontario, Canada

Design 1471
(Patented)

Design 560
(Patented)

test was Gilbert Hill, a 7,000-foot stretch with a mean grade of 6.2 per cent, maximum grade 8.3 per cent, minimum 1.8 per cent. The surface of the street was granite block.

Six trailers were used—ordinary municipal type dumping wagons, as shown in the illustration. The city authorities had specified that there should be no load whatever on the rear wheels of the tractor, and the demonstration was accordingly made with the entire load rolling on steel wheels. The six trailers were loaded with mud, and the total weight of this pay load, as shown by the city scales, was 38,550 pounds, making it an interesting matter for speculation as to whether the big "gasoline horse" would be able to haul this unusual load, weighing approximately 20 tons, to the summit of the hill.

The train was started at the bottom of the hill, made the ascent, turned at the top of the hill without stopping, and with all the wagons tracking perfectly, and returned to the foot of the hill. In coming down the grade the entire load was held back by the tractor only, the brakes on the trailers not being set at any time.

The tractor was brought down the entire length of this 7,000-foot grade in low gear. Two complete stops were made at the steepest part of the hill to demonstrate the ability of the tractor to hold back the load.

The weights hauled in this demonstration were 25 per cent in excess of the loads to be hauled by the city of Cincinnati in actual service, and Knox equipment has, therefore, been purchased.

✦ ✦

Snow Removal During Storms

The Champion snow-plow, made by The Good Roads Machinery Company, of Kennett Square, Pa., is a simple, durable device for rapidly cleaning city streets of snow and ice both during and after storms. To accomplish this effectively a plow must be able to move with the traffic and at the same speed in order not to block the street, and must be able to keep going during the entire storm.

The Champion plow is so designed that it fits all standard motor trucks, and can be quickly attached without boring holes in any part of the truck. The steel scraper blade is 10 feet long and 14 inches wide, and is hung to a semi-circular steel frame, providing angular adjustment, and making it possible to set the blade either for right-hand or left-hand cutting, or, in fact,

at any desired angle. The automatic blade release is so constructed that when the cutting edge strikes an obstacle, such as a manhole cover or a car track, the blade releases to pass over the obstruction and then immediately returns to its operating position. The plow also has a lifting device and a tilting device.

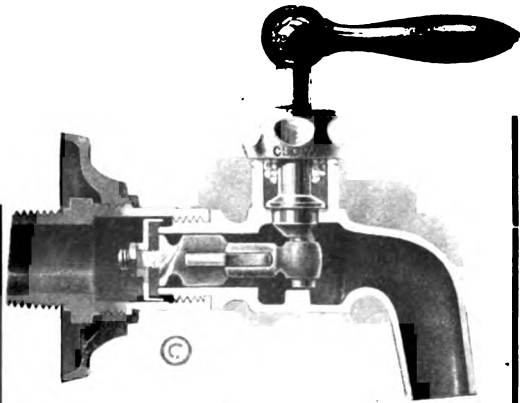
✦ ✦

Spraying Asphalt

A report of some road construction work near Hammond, Ind., describes an interesting instance of the use of the asphalt-spraying nozzles made by the Spray Engineering Company, of Boston. An ordinary tank was used on the truck, and this was towed by a tractor which furnished compressed air at 30 pounds gage. Bermudez asphalt was heated by means of a wood fire beneath the tank to a temperature of about 300 degrees F. The nozzle with the large aperture—10-D Special—was used. The work was done on an ordinary country road; most of it lay through a marsh, but it had been built up to grade. It consisted of 9 inches of crushed limestone, 3-inch ring, rolled, with asphalt at the rate of $1\frac{1}{4}$ to $1\frac{1}{2}$ gallons per square yard; then a coat of crushed limestone, "concrete" size; then asphalt at about $\frac{1}{2}$ gallon per square yard; and, finally, a surface coat of very fine crushed limestone. The roadway was 20 feet wide, and the two coats of asphalt were laid at the rate of 2,000 linear feet in ten hours. This piece of work was inspected at one time by about twenty-five functionaries, including county road commis-



THE CHAMPION SNOW PLOW ATTACHED TO MOTOR TRUCK



The CLOW "NEVALEAK" BIBB

NO RUBBER TO ROT

Water, leaking drop by drop, amounts to 15 gallons in 24 hours, or more money-waste in a year, than the "Nevaleak" Bibb costs.

Fuller action, quick opening, compression seat. Non-leak, non-splash, non-hammer.

Where safety and dependability are demanded—

Specify the "Nevaleak"

"The Bibb Without the Rubber Ball"

Made in sizes, $\frac{1}{2}$, $\frac{5}{8}$ and $\frac{3}{4}$ inch for Sinks and Laundry Trays. Made of Clow's Red Metal.

Send for Circular No. 125

JAMES B. CLOW & SONS

Established 1878

534-546 So. Franklin Street, CHICAGO

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Ornamental Lighting Poles

are designed to add beauty to your streets, but they do far more. They help make your town prosperous by attracting business.

This particular design of pole is for the high efficiency Type "C" Mazda Lamp.

Let us tell you more about this pole, or we will show you our other designs.

**ORNAMENTAL
LIGHTING POLE CO.**

Poles for all Types of Lighting
114 Liberty St., New York

Sun Gasolabra Street Lighting

To save money in installing ornamental street lighting systems, municipalities should require prices on Standards delivered f.o.b., city, and also prices for making the installation separately.



Up-to-Date Municipalities or Engineers should write at once before installing any ornamental cluster systems to

**The Sun
Street Lighting Co.**

1501 Market Street
CANTON, OHIO

sioners, road contractors, representatives of asphalt firms and others, and all gave unstinted approval of the work of the spraying nozzle. Probably no one of the party had ever seen asphalt applied so thoroughly and rapidly, and it was stated that the only difficulty was to build the road as rapidly as the asphalt could be laid.

✦ ✦

Getting Efficiency Out of a Revolving Shovel

The "Erie" shovels, manufactured by the Ball Engine Company, of Erie, Pa., have now been put in use as far east as Boston, Mass., as far west as Des Moines, Iowa, as far south as Winston-Salem, N. C., and as far north as Canada, and are installed in many of the larger cities, such as Philadelphia, Pittsburgh, Buffalo, Rochester, Cleveland, St. Louis, Baltimore, Detroit, etc.

Among the advantages claimed for the Erie shovel is the automatic crowding device, which enables the operator to follow grade in a mechanically perfect way, economically excavating shallow as well as deep cuts and maintaining a level floor bottom. Streets or roadways can be crowned evenly on both sides by the shovel; boulders encountered at grade can be removed by the shovel; cuts as wide as 35 feet on the floor bottom can be excavated at one cut; by applying the power of both the hoisting and crowding engines at the same time, lifting in the same direction, extremely difficult materials can be excavated; few moves are necessary, as the shovel excavates a distance

of over 8 feet on the floor bottom before it is necessary to move up. Teams or cars can be loaded 23 feet from the center of the shovel and do not have to be accurately "spotted," and teams can be loaded on an 8-foot bank without taking them into the pit, which saves time and the cost of a snatch team. No cranesman is required, nor an exceedingly skillful operator, to obtain the rated capacity of the shovel, and only one pit man is needed, provided proper plank sections are furnished on which to operate the shovel; these can be swung from rear to front of the shovel by a chain attached to a dipper, with the assistance of but one man to attach them.

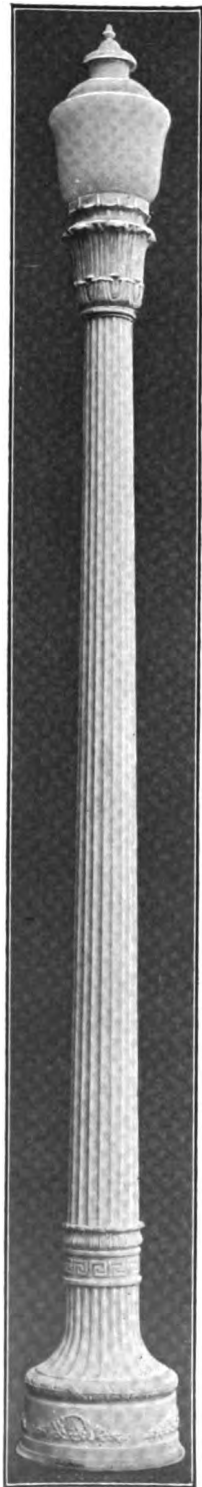
✦ ✦

Testing Segment Block for Sewers

The November issue of *The Segment Block*, published by the American Sewer Pipe Company, of Akron, Ohio, contains some interesting testimonial letters and reports of tests of Amco segment block for sewer construction. This issue is called "The Test Number," and is devoted to answering the inquiry, "What has Amco done to prove itself indestructible?" It puts the public in touch with the engineers under whose supervision the tests referred to were made, and from whom further information can be obtained. Photographs of a number of the weight tests are given, and one of a suspension test, in which 5 feet of 84-foot Amco segment block, weighing over 3 tons, was hoisted above the ground, the block remaining intact, as though cast in a solid.



EXCAVATING WITH THE REVOLVING SHOVEL



These are the new
Novalux
Ornamental Units

With their advent

*the art of Ornamental MAZDA
street lighting moves miles ahead*

In their every line are

*character and elegance and style
distinctiveness to grace the thoroughfares wherever installed*

In their design is the

*evidence of specialized study and
intimacy with street lighting
needs; they make the
most of the wonderful
MAZDA C lamp*

Built into them is

*the inflexible G-E standard of
quality and durability to
bring them down through
the coming years*

Made in any

*candle-power and for your
circuit what ever it is*

Why not—

*Make YOUR community
distinctive with the*

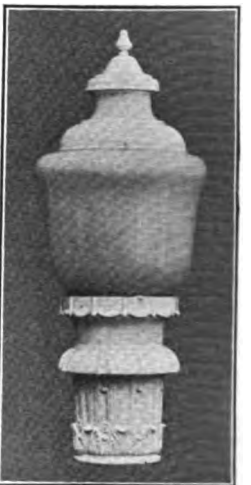
Novalux Ornamental Units

General Electric
● **Company** ●

General Office: Schenectady, N.Y.

Sales Offices in all Large Cities

5878





THE SCHRAMM PORTABLE AIR COMPRESSOR AT WORK

For Removing Rock in Road Building

The ever increasing demand for quicker methods for removing rock in road building, ditching, excavating or quarrying has brought about a tremendous demand for portable air compressor outfits such as shown in the accompanying illustration. This particular machine is one of the new Schramm portable No. 2 equipments. About seven hundred of these machines are being used for such work.

The picture shows a street grading undertaking in suburban Philadelphia. About seven feet of rock must be removed. This would be a difficult job by the old hand methods and also by means of the old style steam drills. Here the machine is drilling over 200 feet of holes per day. The machine does not require any attention after starting, and it takes only thirty seconds to start. About four gallons of fuel are used per day, and two to four buckets of water. There are no boilers to keep going, no cumbersome drills to move about, no steam condensing and getting down into the drill, no coal, water or ashes to haul—in fact, nothing to do but to give attention to the drilling itself. In winter time these facts are all the more appreciated.

The machine weighs only 1,200 pounds, and being of very rigid and low construction with

broad wheels and steel truck underneath, it can be set anywhere. There is very little vibration, and it does not matter at what angle the machine is operated.

These outfits are built in various sizes, and full particulars can be secured as to their many uses by writing to the home office of the manufacturers, Chris. D. Schramm & Son, 308-12 North Fourth Street, Philadelphia, Pa. Their further uses include drilling through concrete, cement, steel or wood, riveting, chipping, caulking of joints and other pneumatic tool work.

✦ ✦

Culvert Specifications

The Canton Culvert & Silo Company, of Canton, Ohio, has recently issued a sheet of "Standard Specifications for Corrugated Metal Culverts." These have been prepared primarily with a view to cooperating with railway and highway engineers, contractors and others in supplying them with a list of specifications for reference and for possible adoption as a basis subject to modifications as desired. The specifications do not apply to any single or arbitrary style of culvert (either riveted or nestable), but are designed to allow a choice among various makes, at the same time assuring the production of a first-class standard article. A copy of the specifications will be sent on request to any one properly interested.

Effective Street Lighting

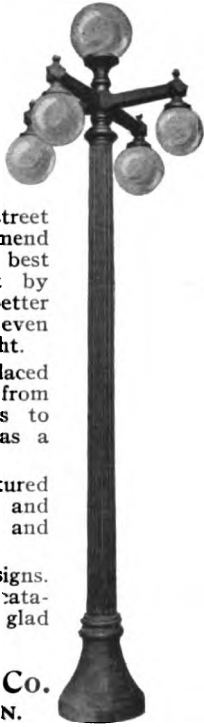
For the best possible street light we can highly recommend this standard. It is the best possible street ornament by day, and there is no better standard manufactured for even street illumination at night.

The lamps have been placed at the correct distance from centers by our engineers to obtain the best results as a lighting standard.

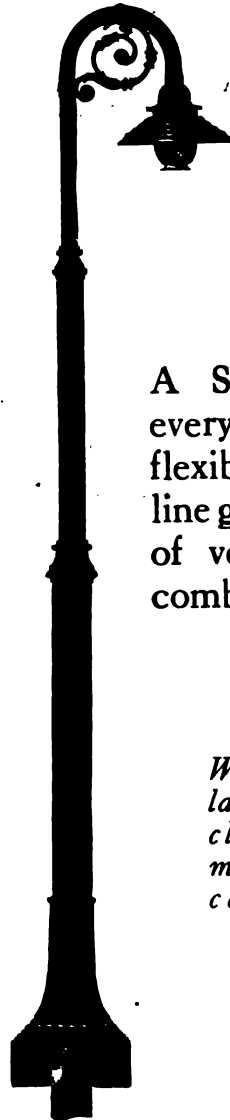
The casting is manufactured from especially prepared and mixed iron, non-corrosive and indestructible.

We make many designs. These are shown in our catalogue which we shall be glad to send you.

The Casey-Hedges Co.
CHATTANOOGA, TENN.



KING STANDARDS



A Standard for every need. The flexibility of our line gives a variety of very pleasing combinations.

Write for our latest poster, cluster and monolite catalogue.

No. 2002

King Foundry Co.
ST. JOSEPH, MO.



30 Day Free Trial Offer

WE'LL gladly send you an American Boulevard Arc for thirty days' free trial! Install the Arc where all may see! Watch it extinguish itself at the appointed time! Satisfy yourself that it gives a steady light of 500 candle-power at approximately one-half cent per hour!

Now's the time to put an American Boulevard Arc to the test! It's guaranteed storm proof but we want you to see for yourself! We want to convince you that there's nothing to get out of order and give trouble! Write us — right now!

**AMERICAN GAS
MACHINE CO.**
551 Clark Street,
ALBERT LEA, MINN.

An Increased Service at a \$3.00 Subscription Price

That the subscribers for this magazine are sincerely desirous of advancing the cause of efficient municipal government, and of promoting civic progress generally, has been the guiding fact in determining the policies of **THE AMERICAN CITY**. It is a source of no little satisfaction to feel that our readers give us credit for sharing with them the wish to help in a practical way to make these aspirations effective.

Occasionally, a subscriber is kind enough to say that every issue of **THE AMERICAN CITY** seems better than the last. Be that as it may, we feel sure that all of our readers will agree that each *year* is better than the last.

To continue this progress during 1916, we shall aim to provide for our subscribers an increase in the quantity of the service rendered them, accompanied by an even higher average than heretofore of interest and practical value of the articles published.

During 1915 we have published in the City Edition a total of 949 reading pages, and a corresponding number in the Town and County Edition. Of the latter, 314 pages were prepared especially for readers interested in the problems of small towns and villages and in county work. Notwithstanding the careful editing down of many articles and the rejection of unimportant matter, there has remained available for both editions a mass of valuable data for which space could not be found. While we can never hope to publish everything that we might wish, we believe that most of our readers will welcome a further increase in the number of pages printed.

In attempting to improve the quality of the magazine, we have realized the importance of an increasing personal contact with municipal officials and civic workers throughout the United States. During 1916 we shall have a larger staff both in the office and in the field than in any previous year.

Obviously, this program will involve increased expenditures; and it follows that a continued growth in service must be accompanied by additional revenue to pay for it. To provide this revenue, an increase in subscription price seems essential. Announcement is made, therefore, that beginning with the present issue the yearly rate for **THE AMERICAN CITY** will be \$3. This new price will apply to either edition desired by the individual subscriber; and for the benefit of those who wish to keep in touch with progress both in the large cities and in the small communities, a combination price of \$4 will be made for the City Edition and the Town and County Edition to one address.

The foregoing explanation is made not as an excuse, but as a *reason*. It is one which we are confident will meet with the hearty approval of all who share our desire that **THE AMERICAN CITY** shall play an even bigger part than heretofore in the nation-wide movement for the physical and governmental improvement of American municipalities.

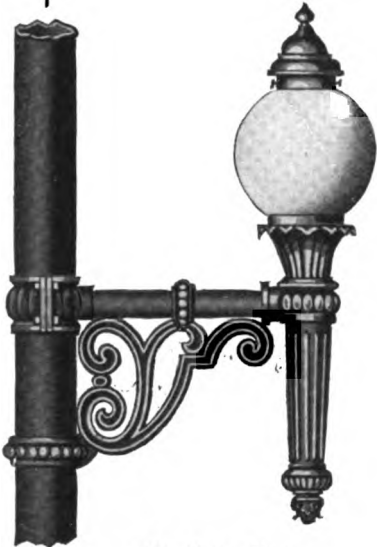
THE AMERICAN CITY

87 Nassau Street

NEW YORK

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61a



We Save You
the cost of underground
construction.
the cost of extra lamp
standards.
the expense of high
maintenance costs.

Save ½ the Cost of a New White Way

The cost of installing new standards
in your city may be prohibitive.

However, your street railway com-
pany must have trolley poles on which
to hang their wires. Why not, then, get
them to co-operate with you in securing

ELRECO Combination Poles

—which will give you a white way as fine as any city
at a much lower expense.

Wooden poles are an eyesore. ELRECO poles are
an improvement and will last much longer.

Put in the Mazda Type "C" Lamp and you will have
brighter business streets at a low maintenance expense.

We have placed ELRECO poles in Pittsburgh,
Niagara Falls, Milwaukee and other cities. Let us
send you our catalogue "D" showing our complete line.

Electric Railway Equipment Co.
New York Office
30 Church Street
Cincinnati, Ohio



The Coleman Boulevard Lamp

**Makes and Burns its
Own Gas from
Gasoline or Kerosene**

It is made of cast iron, cop-
per and brass. Will not rust
out. Stands 12 feet high. Is
storm proof and bug proof.

It gives a strong, white light
and throws it down on the
street and sidewalk where it is
wanted and not up among the
tree tops.

Giving 1000 candle power,
midnight service costs 3 cents
per lamp per night. All night
service 5 cents per night. In
competitive tests we have
never failed to show the lowest
operating cost of any gasoline
or electric light made.

It is lighted and turned on
from the ground in less than a
minute. It is thoroughly prac-
tical and the extra "gas pro-
ducer" insures against failure.
Also made to give 300 candle
power.

Write nearest house.

The Coleman Lamp Co.
Wichita, Kansas
Toledo, Ohio
St. Paul, Minn.
Dallas, Tex.
Chicago, Ill.

MAYORS, SUPERINTENDENTS, POLICE and
FIRE CHIEFS, HEALTH OFFICERS and all other

CITY EXECUTIVES

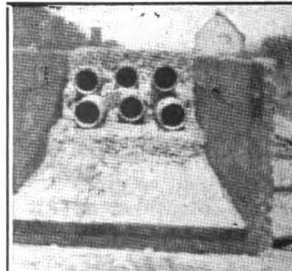
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GRAPHIC RECORDS

Also GLASS HEAD PINS for RECORD MAPS
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Presentation of Facts."

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Arming the con-
tractor for a
swift job by
using

**ORANGEBURG
FIBRE CONDUIT**

Write for Book D

THE FIBRE CONDUIT COMPANY
ORANGEBURG, N. Y.

New York Boston Chicago San Francisco

A Gift That Wears Well

Waterman's Ideal Fountain Pen

*Give
the
genuine*

*Send for illus-
trated gift folder*

*Look
for the
globe*

*In attractive
gift boxes*

In the new Self-Filling, Safety, and Regular Types. Plain or handsomely mounted in gold or silver. All of the same well-known standard quality. Points of every degree. Exchanged after Xmas to suit recipients' handwriting.

Sold at the Best Stores Most Everywhere

L. E. Waterman Company, 173 Broadway, New York

Boston Chicago San Francisco Montreal London Buenos Aires

\$2.50 to \$150.00

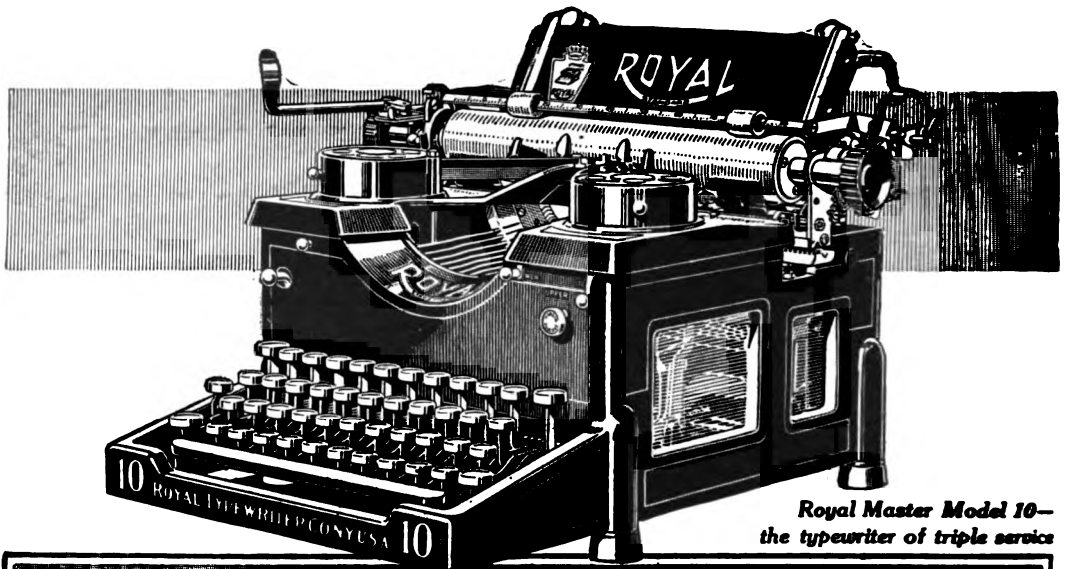
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Type
Gold Bands
With Clip-Cap
No. 12 - \$3.75
Size Larger
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Chased
With Clip-Cap
No. 12 - \$2.75
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Regular Type
Sterling Silver
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With Clip-Cap
No. 412 - \$5.50
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Gold Bands
Long or Short
Size
No. 12½ - \$4.00
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Settle it right now—have a Royal demonstration today

IF we can give you a typewriter that isn't going to scrap itself in a year or two, so that you'll have to go through all that *trading-out* nuisance again—you *want it*.

If we can give you a typewriter that will turn out letters of perfect presswork—the kind of letters that breathe “class” and “up-to-dateness”—you *want it*.

If we can give you a typewriter that not only writes but bills and charges and writes cards for indexes and files—writes anywhere and everywhere on the card—and does all this without a single extra attachment—you *want it*.

If we can give you a typewriter that will help your stenographer to do more work, do it better, do it easier—a typewriter that will bring sunshine into the place—you *want it*.

If we can give you a typewriter that stands up to its work hour after hour, day in and day out, and doesn't go to the bad and blockade things because the repair man has to come—you *want it*.

If we can give you a typewriter that is built not only to do its work better and do more of it, but built to live for years and years—you *want it*.

We *can* do that very thing. We *are* doing it. We've *been* doing it. That's the *reason* for Royal leadership today.

We're ready any minute to show you and *prove* to you that the day you Royalize your office you are spending the wisest money you ever spent.

Write us now, or phone our nearest branch or agency today.

ROYAL TYPEWRITER COMPANY, INC.

Factory, Hartford, Conn.

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Branches and Agencies the World Over



Weavers of Speech

Upon the magic looms of the Bell System, tens of millions of telephone messages are daily woven into a marvelous fabric, representing the countless activities of a busy people.

Day and night, invisible hands shift the shuttles to and fro, weaving the thoughts of men and women into a pattern which, if it could be seen as a tapestry, would tell a dramatic story of our business and social life.

In its warp and woof would mingle success and failure, triumph and tragedy, joy and sorrow, sentiment and shop-talk, heart emotions and million-dollar deals.

The weavers are the 70,000 Bell operators. Out of sight of the subscribers,

these weavers of speech sit silently at the switchboards, swiftly and skillfully interlacing the cords which guide the human voice over the country in all directions.

Whether a man wants his neighbor in town, or some one in a far-away state; whether the calls come one or ten a minute, the work of the operators is ever the same—making direct, instant communication everywhere possible.

This is Bell Service. Not only is it necessary to provide the facilities for the weaving of speech, but these facilities must be vitalized with the skill and intelligence which, in the Bell System, have made Universal Service the privilege of the millions.



**AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES**

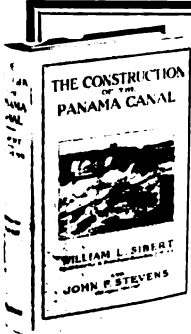
One Policy

One System

Universal Service

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Christmas Books for Thinking Readers



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By WILLIAM L. SIBERT, Brig. General, U. S. A., Division Engineer Panama Canal, 1907-1915, and John F. Stevens Chief Engineer 1905-1907.

A decidedly readable account of the building of the Panama Canal, the greatest engineering feat in history. It is written in a style that will interest the general reader for it tells the wonderful story of the construction of the Canal from the human side of it, a side which has never before been told. Illustrated, \$2.00 net.

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By R. P. TEELE, M.A., Irrigation Economist United States Department of Agriculture.

This is a non-technical discussion of irrigation in the arid section of the United States, intended to give to the persons contemplating settlement in that section the information which they should have. Mr. Teele has been connected with the government's investigations of irrigation for sixteen years and therefore the prospective purchaser may feel that he has in this volume, authentic information from a reliable source. 12mo., cloth, \$1.50 net.

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This book is intended for use as a textbook in schools of commerce, and agricultural colleges, and will be of great service to all merchants connected with the various exchanges; as well as to members of agricultural associations, and all farmers who wish to make a study of the best methods of sale for their products, and the best way of obtaining full market prices. \$2.00 net.

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By SOLOMON S. HUEBNER, Professor of Insurance and Commerce, University of Pennsylvania.

A complete exposition of the principles of life insurance representing years of work by the author under the supervision of the National Association of Life Underwriters. Every phase of the subject is covered and much new material not usually found to be available to the general reader is included in the book. 12mo., cloth, \$2.00 net.

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This volume is not a war book, but primarily a work on social ethics, giving the views of one of the best known thinkers and moral leaders of today. Dr. Adler analyzes the causes of the war and its effects, both present and future, upon civilization and considers the possibilities of future international peace. 12mo., cloth, \$1.50 net.

The People's Government

By DAVID JAYNE HILL, Formerly Ambassador to Germany.

Between the covers of this readable little volume will be found a most interesting discussion, by one of the greatest living authorities, of some of the many important questions agitating the Nation at the present time. The author does not play with statistics, nor with technicalities, but from the beginning to the close of the book discusses the great social unrest and related subjects in a manner that is at once, terse, forceful, distinctive and combined with rare literary skill. \$1.25 net.

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This is an authoritative and complete book dealing with the most attractive and least known of the West Indies—the Lesser Antilles. It is neither a Baedeker nor a guide book, but it fulfils the purpose of both and contains just the information the visitor to the islands may desire, including descriptions of the people, customs, industries, etc. Profusely illustrated from photographs. \$1.50 net.

Problems of Readjustment After the War

By Seven Eminent Specialist American Authors.

After the war—what? In this book one of the greatest groups of American authorities which could be gathered together discusses the probable effects of the European War upon the United States and the questions which we shall have to settle because of it. 12mo., cloth, \$1.00 net.

The Trade Union Woman

By ALICE HENRY Formerly Editor of "Life and Labor."

This is a concise and interesting account of trade-unionism in the United States where there are 8,000,000 women engaged in wage earning occupations. Miss Henry has devoted her life to the work of eliminating the unfair conditions under which women in trades are so often obliged to labor, and in this book she tells of the efforts these women have made and are making to overcome these conditions by means of organization. An authentic volume for the consideration of all thinking men and women. Illustrated from photographs. \$1.50 net.

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A brief but comprehensive study of the labor conditions and problems connected with and resulting from the introduction and practice of scientific management, discussed both from the standpoint of the individual shop and the industrial and social outcome generally. The author's work with the Commission on Industrial Relations, and his own investigations have lead to conclusions which are of the highest interest to workers and employers alike. \$1.50 net.



D. APPLETON AND COMPANY, PUBLISHERS, NEW YORK

The three vital features of your Christmas Grafonola

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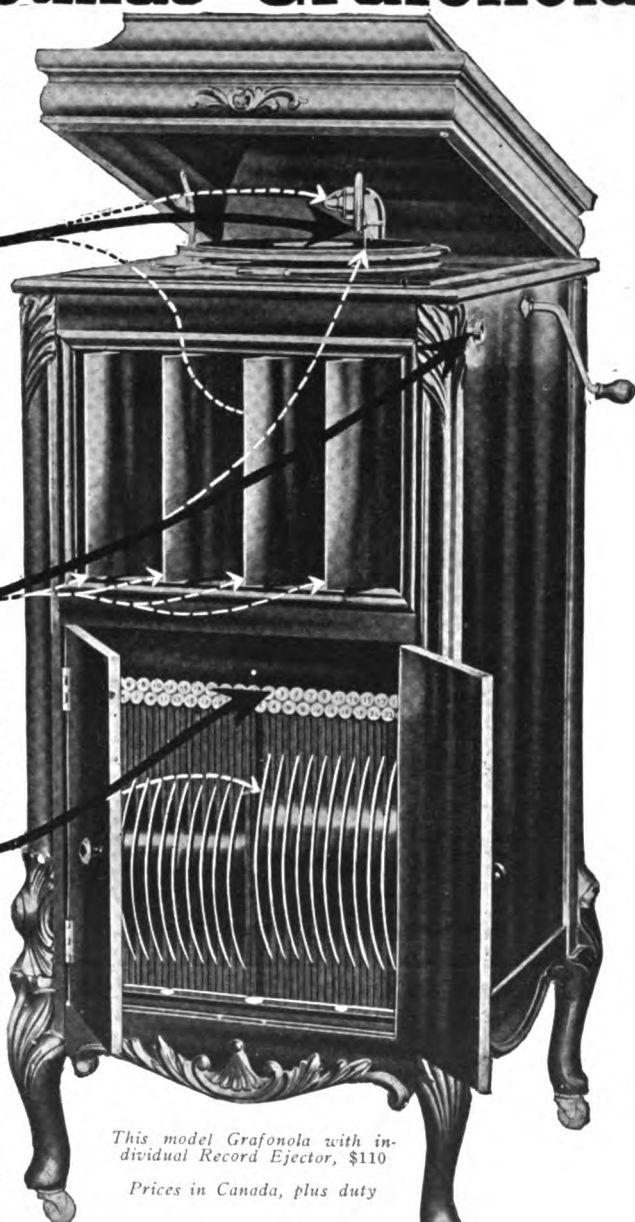
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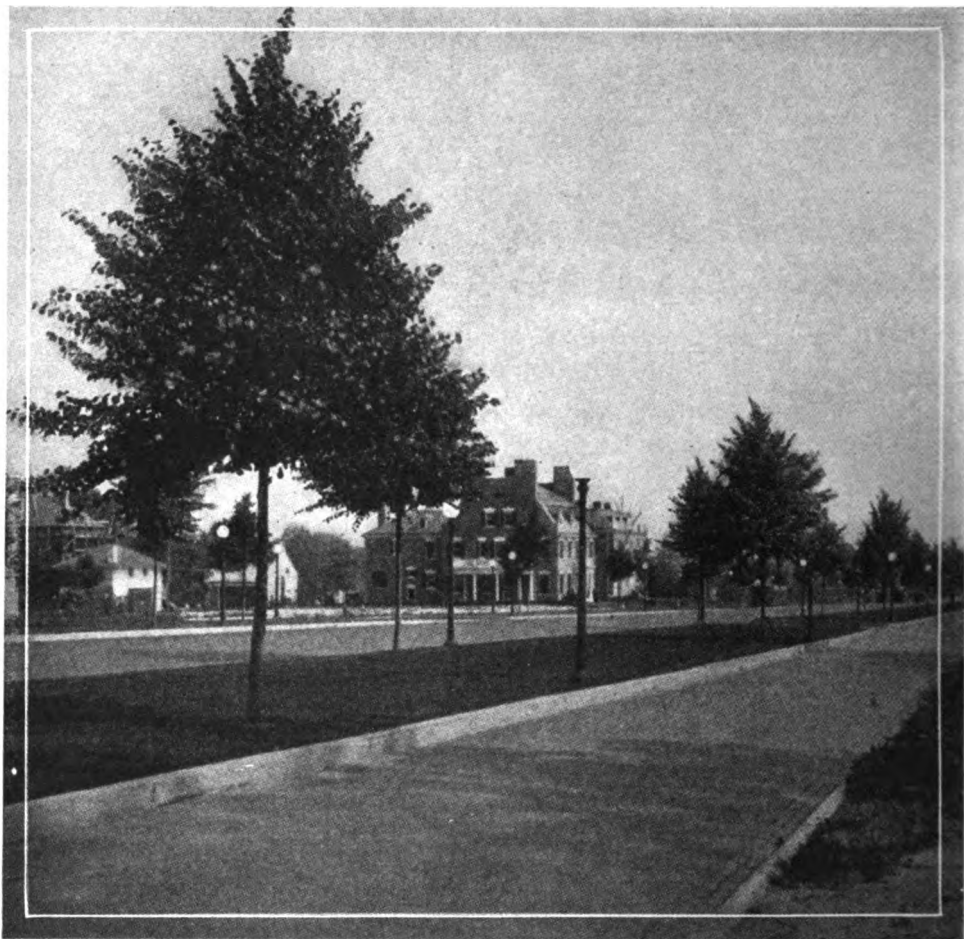
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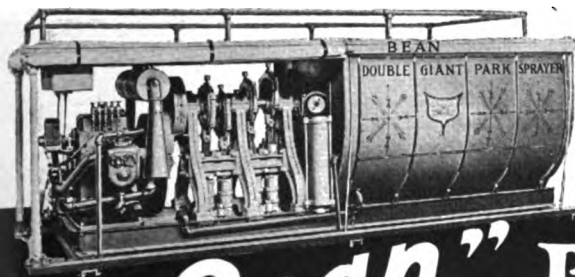
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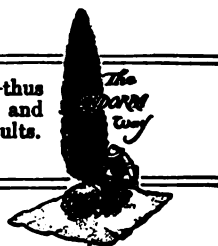
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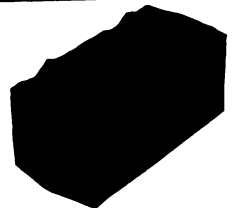
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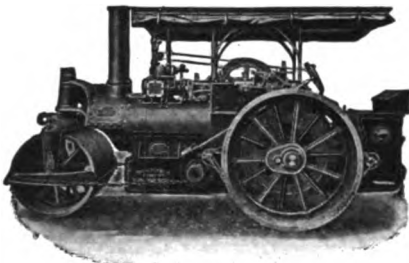
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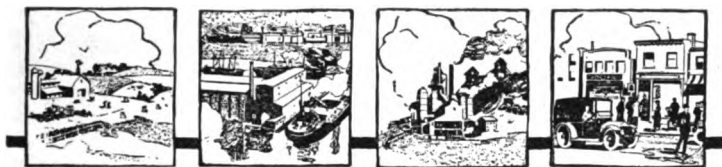


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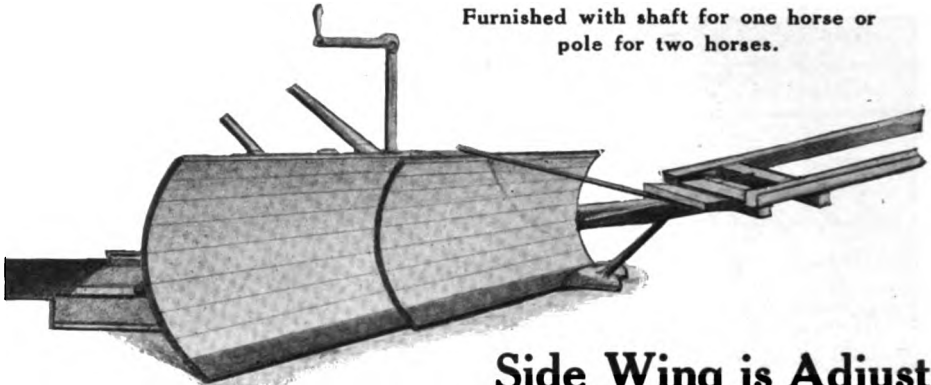
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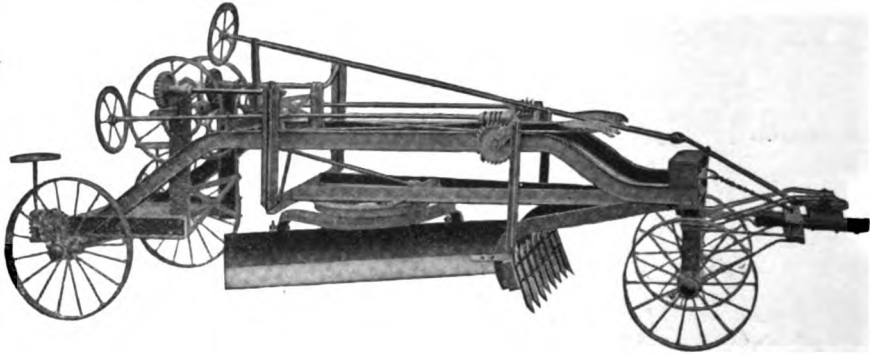
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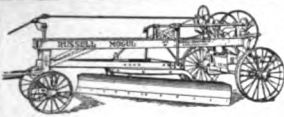
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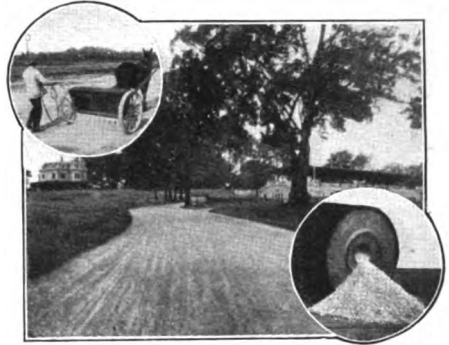


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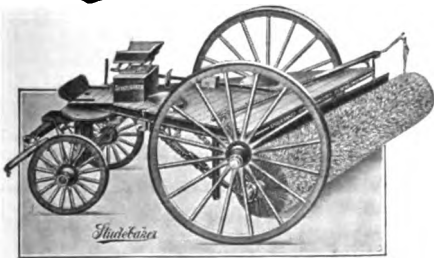
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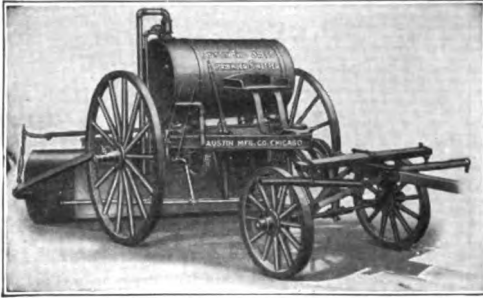
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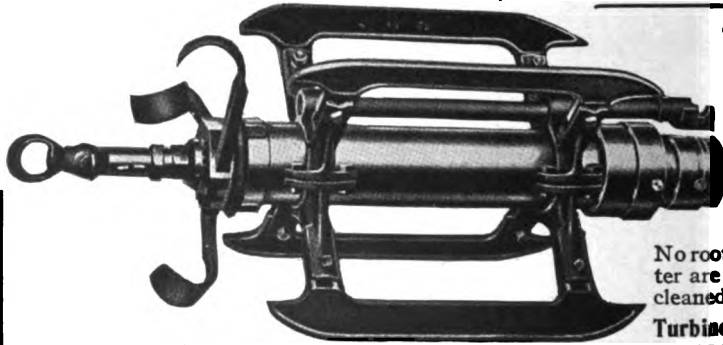


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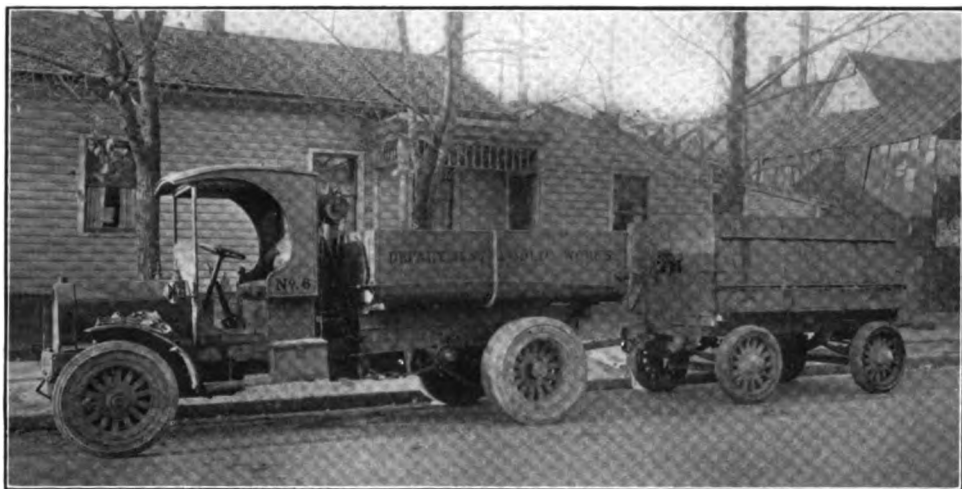
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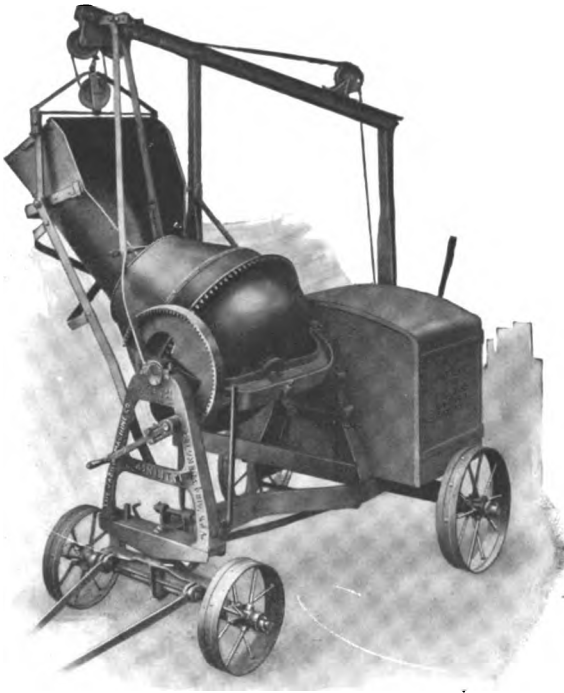
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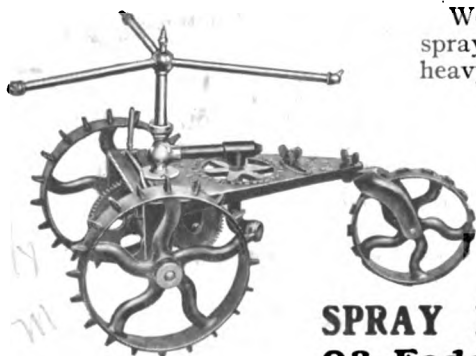
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